

UNIVERSITE DE YAOUNDE I

CENTRE DE RECHERCHE ET DE
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HUMAINES, SOCIALES ET EDUCATIVES

UNITE DE RECHERCHE ET DE FORMATION
DOCTORALE EN SCIENCES HUMAINES ET
SOCIALES

DEPARTEMENT DE LA PHILOSOPHIE



THE UNIVERSITY OF YAOUNDE I

POST GRADUATE SCHOOL FOR SOCIAL
AND EDUCATIONAL SCIENCES

DOCTORAL RESEARCH UNIT FOR
SOCIAL SCIENCES

DEPARTMENT OF PHILOSOPHY

Education as the Development of Human Potentialities in Maria Montessori's "*Education For A New World*"

A DISSERTATION DEFENDED ON THE 20TH OF JULY 2023 TO OBTAIN A
MASTER'S DEGREE IN PHILOSOPHY

SPECIALISATION: LOGIC AND EPISTEMOLOGY

SUB-SPECIALTY: PHILOSOPHY OF EDUCATION

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To my lovely parents, Mr Nyuybanla John (of blessed memory) and Mrs Dzewola Ophilia

ACKNOWLEDGEMENTS

The realization of this research work is thanks to the concerted efforts of many people from various angles. I am therefore indebted to them for their sacrifices.

Special gratitude goes to my supervisor, Prof. MOUCHILI NJIMOM Issoufou Soulé, Professor of The University of Yaounde I, for his guidance and directives throughout this study. I equally wish to extend my sincere gratitude to the University of Yaoundé I for opening its doors to enable me have this training. In a special way, I thank the Head of the Department of Philosophy KENMOGNE Emile, Professor, and the entire staff for taking the responsibility in my training with love and diligence.

My sincere gratitude equally goes to Dr. SHANG Nelson of the University of Bamenda who has guided and encouraged me while I was still in the Higher Teacher Training College Bambili right to this level.

To my family, I would like to recognize the sacrifice made by the following: my uncle NJOKA Aloysius, all my brothers and sisters who have always encouraged me and ensured that I further my education while providing me with all I need.

To my classmates whose names cannot all be mentioned. The few I should mention include NSABINLA Tarcisus and NJUMBE Martin for their moral and intellectual support towards the success of this research.

I immensely thank my fiancé, TAHKA Beltian, my friend AMINKENG Germaine for the support, love and care shown to me throughout this research.

ABSTRACT

This work entitled “**Education as the Development of Human Potentialities in Maria Montessori’s *Education for a new World***” aims at understanding how education can foster the development of human potentialities and enhance learning competencies in students for the development of the self and the society. Human potential refers to a possibility human beings are capable of achieving. Maria Montessori believes that the traditional system of education directs students to learn through memorization and recitation techniques and does not lay much emphasis on helping students to bring out their maximum potential. What goal can we attribute to education today? Our focus shall be to answer the questions, what are the favorable conditions under which education can help in the development of human potentialities? Is Montessori’s view essential in enhancing creativity and developing the necessary competencies of learners in our society today? According to Montessori, education is a natural process carried out by the human individual. It is not what the teacher gives and is not acquired by listening to words but by experiences upon the environment. The traditional banking method of education, authority of the teacher and memorization that Montessori rejects is said to limit learner’s ability to discover, nurture fully and develop their innate potentials. For this reason, Montessori opts that education should help the learners develop confidence in their emerging abilities and offers them the opportunity to gain independence in daily tasks. To achieve this, our focus shall be on the fact that education should serve as a process of drawing out what is already within each individual child, education should foster independence and encourage freedom with responsibility and that education should prepare the child for a life of service to humanity. The analytical and critical methods were used to achieve this research work. The pedagogic significance of this work is that it serves as a guide for educational stakeholders to understand the need to re-structure systems that are not well structured in a way that can serve the purpose for which we defend. It serves as a guide for curriculum developers and policy makers to bring out programs that will enhance the development of individual competencies for eventual progress at the individual and societal levels. Thus, Montessori’s idea of education as the development of human potentialities is indispensable to our educational systems today.

Keywords: Education, Human Potentials, Montessori, Critical Thinking, Problem Solving.

RÉSUMÉ

Ce travail intitulé « **L'éducation comme développement des potentialités humaines dans l'éducation pour un monde nouveau de Maria Montessori** » vise à comprendre comment l'éducation peut favoriser le développement des potentialités humaines et améliorer les compétences d'apprentissage chez les étudiants pour le développement de soi et de la société. Le potentiel humain fait référence à une possibilité que les êtres humains sont capables de réaliser. Maria Montessori estime que le système éducatif traditionnel incite les élèves à apprendre par les techniques de mémorisation et de récitation et n'accorde pas beaucoup d'importance à aider les élèves à mettre en valeur leur potentiel maximum. Quel objectif peut-on attribuer à l'éducation aujourd'hui ? Notre objectif sera de répondre aux questions, quelles sont les conditions favorables dans lesquelles l'éducation peut contribuer au développement des potentialités humaines ? Le point de vue de Montessori est-il essentiel pour améliorer la créativité et développer les compétences nécessaires des apprenants dans notre société aujourd'hui ? Selon Montessori, l'éducation est un processus naturel effectué par l'individu humain. Elle n'est pas ce que l'enseignant donne et ne s'acquiert pas en écoutant des mots, mais par l'expérience de l'environnement. La méthode bancaire traditionnelle de l'éducation, l'autorité de l'enseignant et la mémorisation que Montessori rejette limite la capacité de l'apprenant à découvrir, nourrir pleinement et développer leurs potentiels innés. Pour cette raison, Montessori choisit que l'éducation devrait aider les apprenants à développer la confiance dans leurs capacités émergentes et leur offre la possibilité d'acquérir une autonomie dans les tâches quotidiennes. Pour y parvenir, nous nous concentrerons sur le fait que l'éducation doit servir de processus de développement de ce qui est déjà en chaque enfant, l'éducation doit favoriser l'indépendance et encourager la liberté avec responsabilité et l'éducation doit préparer l'enfant à une vie de service à l'humanité. Les méthodes analytiques et critiques ont été utilisées pour réaliser ce travail de recherche. La signification pédagogique de ce travail est qu'il sert de guide aux acteurs de l'éducation pour comprendre la nécessité de restructurer des systèmes qui ne sont pas bien structurés d'une manière qui peut servir le but pour lequel nous défendons. Il sert de guide pour les concepteurs de programmes d'études et les décideurs afin de mettre en œuvre des programmes qui amélioreront le développement des compétences individuelles en vue de progrès éventuels aux niveaux individuel et sociétal. Ainsi, l'idée de Montessori de l'éducation comme développement des potentialités humaines est indispensable à nos systèmes éducatifs d'aujourd'hui.

Mots clés: Éducation, Potentiels humains, Montessori, Pensée Critique, Résolution de Problème etc.

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GENERAL INTRODUCTION

Education is considered as one of the most crucial aspects in our contemporary world. This is because the growth of most societies today is measured in relation to its level of educational advancements. Education as a universal and cultural value seeks to place each and every individual at an optimal level of growth and self-realization. Education plays a dominant role as an effective instrument for large scale achievement and revolution in all spheres of the society.¹² Purposeful education enables the individual to understand and study real life situations and to develop an opportunity for creating confidence in the minds of younger generation, and provide a strong base for rational and value oriented and nation building progress. The most importance challenge of education in our present era is centered on an individual's ability to discover his or her potentials and role in life, and to able to form oneself as a fulfilled human through non-stop motion towards self-actualization. Broadly speaking, education has two goals which are mutually dependent: the cultivation and development of the individual and improvement of the society. For the past decades, many philosophers of education have tried to prescribe a definite standard under which they think education can help the individual to develop his or her self and the society at large. From a progressivist perspective, education should focus more on developing the child's nature and abilities. This works by focusing more on the child's potential so as to be able to harness his abilities and aptitudes for self-actualization.

Etymologically, Education comes from the latin verb *educare* which means to rear or nourish and *educere* which means to bring out. This shows that education here means to lead out internal hidden talent of a child or person. According the great ancient Greek philosopher Plato, education develops in the body and soul of the pupil all the beauty and all the perfection he is capable of. Leke Tambo defines education as the sum total of a person's learning experiences during her lifetime.³

According to Maria Montessori, "Scientific observation, then, has established that education is not what the teacher gives: education is a natural process spontaneously carried

¹ Alpesh Nakrani and Nitin Dhadhodara, Role of education in human development, retrieved May 24 2023 from www.academia.edu

² Charles Myers and Harbison Frederick, *Education, Manpower and Economic Growth: Strategies of Human Resource Development*, New York, McGraw-Hill, 1965.

³ Leke Tambo, *Principles and Methods of Teaching: Application in Cameroon schools*, Anucam Publishers, Cameroon, 2003, p.3

out by the human individual, and is acquired not by listening to words but by experiences upon the environment”⁴.

Generally speaking, a potential is a currently unrealized reality. Human potential refers to a possibility human being are capable of achieving. It can also be seen as the capacity for humans to improve themselves through studying, training, and practice so as to develop aptitudes and skills. Inherent within the notion of human potential is the belief that in reaching their full potential, an individual will be able to lead a happy and a more fulfilled life.⁵ According to Montessori, developing a potential can involve being able to fulfill one’s inherent gifts or skills.

Traditionally, education directs students to learn through memorization and recitation techniques and does not lay much emphasis on developing in them critical thinking problem solving and decision-making skills. This said, the traditional method does not show how skills are acquired, practiced and preserved which should be the goal of education in the contemporary world. According to Montessori, if education were to continue along the old lines of mere transmission of knowledge, the problem would be insoluble and there would be no hope for the world. Alone a scientific enquiry into human personality can lead us to salvation.⁶ Given the fact that technology has today revolutionized every aspect of the society gives us the incentive to rethink the manner in which we teach. There is an increasing need to adopt an educational system which encourages the development of individual skills and aptitudes for the growth of the self and the society. Education should reflect the realities of a society and not turning learners into containers to be filled by the teacher.⁷ According to Maria Montessori, education should help the child develop confidence in their emerging abilities and offer them the opportunity to gain independence in daily tasks.⁸ She was of the view that education should not be based strictly on prescribed syllabus but upon the knowledge of human life itself. For her, every adopted system of education should help students to bring out their maximum potential. This is because she believed that the child did not come into the world as a clean slate, but with a unique potential. Her approach is designed to help children effectively

⁴ Maria Montessori, *Education for a new world*, Adyar, Madras, India: Kalakshetra publications, 1946, p.3

⁵ David Vernon, *Human Potential: Exploring techniques used to enhance performance*, London Routledge, 2009, p.1

⁶ Maria Montessori, *Education for a new world*, p.1

⁷ Paulo Friere, *Pedagogy of the Oppressed*, trans. By Myra B. Ramos, Continuum International Publishing Group, New York 2005, p.72.

⁸ Maria Montessori, *To Educate the Human Potential*, Adyar, Madras, India: Kalakshetra publications, 1961.

adapt to real-life situations and develop essential skills.⁹ Montessori's interest was not solely to accelerate mental growth but rather to help a child develop and fulfill his or her innermost potential. This explains the reason why in her philosophy of education, she developed a way through which she thought children could easily maximize their potentials. For her, the child should follow her inner clock.¹⁰ Her ultimate task is to ensure that education nurtures and builds the individual's potentials so as to help the individual construct and develop all creative activities that will foster growth. According to Montessori, her motivation came from the system of education at her time which was considered to deal only with knowledge transmission on a broad scale without considering the students and their specific potentials. This leads to the acquisition of knowledge that is not considered to be practically operative in the lives of the students and the society in which they live.

Maria Montessori emphasizes on an educational system geared towards self-directed activity and hands-on learning.¹¹ By self-directed activity here, we understand it as a strategy in which students with guidance from a teacher decide what and how they will learn. This was referred to as Discovery Based Learning in the early part of the 21st century. Jerome Bruner is often credited as the founder of discovery-based learning in the 1960's. The aim of education under this method should be to create autonomous learners. It helps them to learn how to learn as Bruner affirms; "practice in discovering for oneself, teaches one to acquire information in a way that makes information more readily viable in problem solving."¹² This type of learning takes place in situations where the learners interact with their environment by exploring and manipulating objects in order to solve problems. This method motivates learners to build on past experiences and knowledge, make use of their intuition, imagination and creativity as well as search for new information, correlations and new truths. According to Rousseau, knowledge is never imposed but discovered. He believes that letting the child know through experience would make him smarter, rather than using words or expressions to explain things to him. Rather than teachers being seen as the "knowledge holder" and the child as nothing more than an "empty vessel" to be filled up with knowledge, children should be treated as naturally inquisitive individuals which will help to facilitate understanding and build necessary skills in learners. In Montessori's own view, discovery can be well utilized within the context of a well

⁹ Chalkypapers, "Maria Montessori: Education as an Aid to life", 2022, from <https://chalkypapers.com>, retrieved May 30 2023.

¹⁰ Maria Montessori, *To Educate the Human Potential*, Adyar, Madras, India: Kalakshetra publications, 1961.

¹¹ Related to learning by active personal involvement. It implies actually doing something rather than learning about it merely from books and lectures.

¹² Jerome Bruner, "The act of discovery", in *Harvard Educational Review*, Vol.31, issue 1, 21-32, 1961, p.26

prepared environment. This refers to the classroom environment designed to provide children with materials they are cognitively ready to explore and use to develop skills.

Montessori believed that children develop in stages or planes and that each stage has its own unique qualities and characteristics. The child's needs have to be reflected in the environment and in the strategies employed by the adults when facilitating their learning. With respect to this, Montessori lays emphasis on the fact that education should take into account the social, cognitive, moral and biological changes of the individual at every level. Understanding the characteristics and needs of the child at each stage allows the adult to support the natural unfolding of life. This explains the reason why Montessori saw these planes of development as windows of opportunity for developing human potentialities in education.

For this purpose of education to be met in our contemporary societies and Cameroon in particular, schools should provide educational methods that promote self-development rather than focusing much on acquiring grades. By this, the students can be able to gain complete possession of their own powers. Education in this respect should be able to develop the following in students. Self-initiated action and acceptance of responsibility for one's own actions, self-direction and decision-making skills, critical learning and evaluation, acquisition of knowledge for resolution of daily life challenges, intelligent and flexible adaptation to new situations and above all the self-motivation and desire to work for one's own purposes.¹³

Our research motivation came from the fact that; looking at the nature of the educational system in Africa and Cameroon in particular gives us the incentive for an evaluation as to what it offers to individuals and the society at large. This is because such a system is said to be traditional and aims to limit and control the imagination. It is seen to be only for personal motive and gain.¹⁴ The system is said to be inadaptive to the needs of the individual and the society in. Such systems do not fully promote the growth of the individual's innermost potential for which we posit. They turn to focus more on the learning for the sake of grades and acquisition of certificates for job seeking purposes. As such, the individual's efforts towards creativity and critical thinking are being minimized. This explains why according to Montessori, "*education should no longer be mostly imparting of knowledge but must take a new path, seeking the release of human potentialities.*"¹⁵ How can the focus on developing

¹³ Jiddu Krishnamurti, *Education and the significance of life*, Harper and Row, Later Printing edition, 1953.

¹⁴ Gintis in R.C. Edwards et al (eds) *The Capitalist System*, Eaglewood cliffs, NJ: Prentice-hall, 1972, p.123

¹⁵ Maria Montessori, *Education for a new world*, Adyar, Madras, India: Kalakshetra publications, 1946, p.2

human potentialities help students contribute to the development of the self and the society in which they find themselves? What are the favorable conditions under which education can help in the development of human potentialities? In what ways can we reshape our educational systems to be more practical and self-realizing? Montessori carefully designed strategies which should be implemented starting from an early stage in the child's life which would go a long way to build an individual's capabilities. Here, the individual is being given the ability to make the best use of his potentials, personality, surroundings and circumstances in order to accomplish the maximum in life that will help himself and others.

The objective of this study is to deconstruct the traditional view of knowledge transmission which focuses more on memorization and the acquisition of grades. This will lead us to examine the ways in which education can help in the development of human potentials so as to endow in the learners critical thinking and problem-solving skills. From this, we understand that for Maria Montessori, education should be progressive in nature and should help the child not only to accelerate mental growth, but to fulfill his or her innermost potential. We will as such advocate for a curriculum that focuses on the appeal to the learner's innate hunger for knowledge and self-actualization.

The significance of this research is first and foremost based on the pedagogical perspective in critical pedagogy. The principal purpose of Montessori's educational method is to develop each child's natural thirst for knowledge and to help in the process of developing in them the potentials they possess. The Montessori curriculum requires students to manipulate real life tools in order to gain an understanding of the world. This research work will as such help to make the curriculum developers aware of the need for a more critical and practical curriculum in schools. This will help students prepare for life with a more organized approach to academic skills, problem solving, development of the child's independence, self-discipline and interest in learning.¹⁶ Our study will help in the implementation of curriculum programs that reflect a manner in which skills can be built in learners for creative problem solving and critical thinking. This will lead to an educational system that fosters the growth of autonomous, competent, responsible, adaptive citizens.

Montessori's approach has been considered scientific because she used her medical, anthropological and pedagogical knowledge to assess children's development and learning. As

¹⁶ Elizabeth Hainstock, *The Essential Montessori*, New York, NY: Plume Publishers, 1997, p.37

her primary research technique, she harnessed the power of observation.¹⁷ Observation is said to play a vital role in education as it provides educators with constructive feedback on how to improve interaction within the learning environment. In more formal words, observation serves as an active acquisition of primary information needed to make the teaching/learning exercise move effective. Contemporary observations of children provide us with evidence for the relevance and validity of Montessori's approach, particularly if analyzed not only in the context of Montessori's own writing but also with reference to theories of developmental psychologists such as Piaget, Vygotsky and Bruner.

Also, this research work is of great importance because it outlines the aims of education and prescribes a sense of action and reflection on the contemporary systems of education and the need for the building of personal skills through education. In another light, it emphasizes on the individuality and learning potential of every child including children who have physical, mental or emotional challenges. The teacher following the Montessori Method always aims at nurturing mature and social adept students regardless of their status in the society.

The reflection of our work is limited to the field of epistemology and Philosophy of education. More precisely we focus on what constitutes a good educational system that supports the growth and development of individual capabilities and potentials. As such, our scope is limited to the necessity for an educational curriculum that focuses more on building learner's potentials and necessary competencies. Therefore, in order to accomplish our task, some domains of philosophy and philosophy of education will be left out.

To achieve this study, the methodology that will be used is the analytical and critical methods. The analytical method is used to break into small and understandable units the ideas of Montessori with regards to the path education should follow. The critical method will be used to evaluate these ideas as well as the challenges her thoughts faced or still continue to face.

This work will be divided into three parts of two chapters each. Part one shall consist of chapter one and two and shall be dedicated to explaining the context of Montessori's conception of education and its basic tenets. In chapter one, our main focus shall be on the context of education and the development of human potentialities. In an attempt to do so, we are going to see how early educational theorists such as Itard and Seguin, Rousseau, Pestalozzi and

¹⁷ Observation according to Montessori is a tool that is used by the adult to follow each child or learner, assessing their abilities and readiness for materials. Through observation, educators learn about their learners from a scientific and objective perspective.

Froebel's influenced the educational ideas of Maria Montessori. We shall also look at the ideologies that characterize the basis for Montessori's idea of education as the development of human potentialities. Chapter two shall focus on Maria Montessori's conception of education as a means of developing human potentialities. Our focus shall be on the goals of education as a means of developing human potentialities, the prepared environment, freedom and discipline and the four planes of development as windows of opportunity in education. We shall as such be pre-occupied with answering the question; what are the favorable conditions under which education can serve as the purpose of developing human potentialities?

The second part of our work will cover chapter three and four and will consist of an appraisal of Montessori's conception of education. Chapter three shall focus on a critical evaluation of Montessori's views. Chapter four shall focus on the views of other educational philosophers that are related to or are contrary to those of Maria Montessori's conception of education.

Part three of work shall consists of chapter five and six and shall be dedicated to show the Perspective that can be gotten from Montessori's education and the development of human potentialities. In chapter five, we shall be looking at the contributions made by Montessori in fostering education at a general level. This ranges from the establishment of education as a progressive enterprise, the encouragement of a child centered curriculum, her idea of redefining the role of the teacher in the educational process as well as education as a means of promoting world peace. Chapter six on its part shall be dedicated to an exposition of the Competency Based Approach to education in contemporary as a way of appropriating Montessori's educational goals.

PART ONE

THE CONTEXT OF MARIA MONTESSORI'S CONCEPTION OF EDUCATION AND ITS BASIC TENETS

Education as a universal and cultural value seeks to place each and every individual at an optimal level of growth and self-realization. Broadly speaking, education has two goals which are mutually dependent: the cultivation and development of the individual and improvement of the society. From a progressivist perspective, education should focus more on developing the child's nature and abilities. This works by focusing more on the child's potential so as to be able to harness his abilities and aptitudes for self-actualization. According to Maria Montessori, education should help an individual develop his or her innermost potentials as a means of self-actualization. This part shall consist of two chapters. In chapter one, our main focus shall be on the context of Maria Montessori's conception of education as the development of human potentialities. Chapter two shall focus on education as a means of developing human potentialities according to Maria Montessori.

CHAPTER ONE

THE CONTEXT OF EDUCATION AS THE DEVELOPMENT OF HUMAN POTENTIALITIES

This chapter focuses on an attempt to understand the context of education and the development of human potentialities. We are going to see how early educational theorists such as Itard and Seguin, Rousseau, Pestalozzi and Froebel's influenced the educational ideas of Maria Montessori. We shall also look at the ideologies that characterize the basis of Montessori's idea of education as the development of human potentialities. These ideologies range from Discovery based learning as a contextual foundation for education and human potentialities, human tendencies as a driving force for adaptation in education, as well as the idea that education begins from birth and is nurtured progressively. We will also discuss her idea of the education of children with special needs and how it served as an inspiration in her life-long pursuit of education as the development of human potentialities.

1.1 Educational theorists that influenced Maria Montessori

Various researchers over the years have identified several theorists, scientists and educators that seem to have influenced Montessori's work. Philosophically, Montessori was greatly influenced and was in agreement with theorists who were committed to a "belief that the power of children's learning exists within the child and proceeds from the child."¹⁸ These group of thinkers believed that children's learning was an integral part of their being and as such, learning cannot be independent of or exists external to the child. Drawing from these ideas, Montessori regarded children as being capable of constructing their own intelligences and morality which set the pace for her entire educational pursuits. Her study of the ideas of thinkers such as Itard and Seguin, Rousseau, Pestalozzi and Froebel among others had a highly significant influence on the development of her educational ideas.

In the first place, Montessori's research on mental retardation and other psychological disorders in children led her to the work of Jean Marc Itard and Edouard Seguin, who were French physicists and psychologists.¹⁹ Her study of these two great thinkers had a highly significant formative influence on the development of her educational method.

¹⁸Nancy Rambusch, and John Stoops, *The Authentic American Montessori School: A guide to the self-study, evaluation and accreditation of American schools committed to Montessori education*, New York, 1992, p.2

¹⁹Maria Montessori, *The Montessori Method, Scientific pedagogy as applied to child education in "the children's houses"* trans. A. E. George, London: William Heinemann, 1912, p.7

To begin with, Itard was seen to be the first teacher to employ the observational method used in hospitals to observe the sick. He developed a range of educational approaches for the improvement of children's senses²⁰. He discovered that intelligence while a given, developed by having the appropriate experiences at the right time of development. He influenced Montessori with his clinical method of observation.²¹ From this, Montessori coined the idea of observing the child and following the various stages in the child's development. According to Itard, human beings went through specific, definite and necessary stages of growth which should be followed when solving problems related to the self. Montessori was highly impressed by Itard's work and she was trained like him in clinical observation. Readily accepting his ideas, she called his efforts practically the first attempts at experimental psychology. He emphasized on the necessity for the observation of the child with correspondence to the stages of development. For him, children underwent these respective stages of development by engaging in activities that were appropriate to that particular period for which they are physiologically and psychologically ready. This influenced Montessori to develop her educational ideas based on the idea that the child should be closely observed so as to know when it is appropriate to impart in he or she certain skills. Both Itard and Montessori "followed children's natural tendencies."²² Based on their approach, individuals had detailed observations, notes, records kept of their progress in a secure compassionate environment.²³

According to Rohr, Montessori did not reveal clearly where much of her inspiration came from but in her writings, she expressed her endeavors in understanding Seguin's works. He viewed education as a ground work for a perfect society, where harmony and democracy would be achieved through each person's active involvement in their own education, resulting in people who lived and worked together harmoniously. Seguin saw education as being dependent on nature and nurture, in which he advocated independence, individual experiences and practical activities, all of which are evident in Montessori's method.²⁴ Seguin insisted on the education of the handicapped children. According to him, training centers and educational centers should use both medical and pedagogical knowledge to treat handicapping conditions. He equally emphasized on the physiological measurement and observation of the child as a

²⁰Jean-Marc Itard, *The wild boy of Aveyron*, trans, G. Humphrey and H. Humphrey, New York: Appleton Century-Crofts, 1962. (Original work published in 1801)

²¹ Ibid.

²² Marion O' Donnell, *Maria Montessori*, R. Bailey, Ed. London: Bloomsbury Academic, 2007, p.4

²³ idem

²⁴ Marion O' Donnell, *Maria Montessori*, op.cit, p.7

means of diagnosis, treatment and education.²⁵ He devised a series of materials which he believed could help in training the senses and improving the physical skills of children with mental handicaps. Seguin developed several techniques that would be adopted by Montessori in her educational theory. Some of these include; basing instruction on developmental stages while using didactic materials, and training children to perform practical skills so that they could achieve some degree of independence.²⁶ With these ideas brought by Seguin concerning special education, Montessori was motivated to dive more deeply into education, basing her ideas on the full development of the child's potential. Seguin's ideas gave "...equal emphasis to internal and external development, arranged so that they complemented one another".²⁷ The didactic materials designed by Montessori to improve and develop children's sensory functions were inspired by Seguin. From these, Montessori understood that in the education of all children, the teacher's activities were to be geared towards the child's spirit which was a 'sort of secret key' to education fulfilling its aims.²⁸

Secondly, Montessori was also influenced by Rousseau. Montessori believed that learning occurs best when it happens at just the right moment in children's development. Rousseau felt that sense experience was the basis of the child's knowledge. According to him, the child's education should first and foremost be about exploring the senses and the physique; the intellectual should come much later. Doing this will help the child to be able to acquire skills by himself. He emphasized on the process of learning rather than what is learnt. For him, the teacher's role was to assist with the process which goes on within the child's mind. This shows that the key to learning lies with developing each child's senses, starting with concrete experiences.²⁹ The curriculum should be based on the child's interest and needs and the children should be allowed to learn their own realities. As a result, Rousseau lays emphasis on the child learning from their own experiences from the beginning was adopted by Montessori. This is because she felt that children needed concrete experiences first before being introduced to abstract concepts.³⁰

²⁵ Edouard Seguin, *Idiocy: and its Treatment by the Physiological Method*, New York: W. Wood and Co., 1866, p.9

²⁶ Kathrina Myers, "Seguin's Principles of Education as Related to the Montessori Method" in *Journal of Education* 77, 1913, p.41

²⁷Ibid.

²⁸Maria Montessori, *The Montessori Method. Scientific pedagogy as applied to child education in "the children's houses"* op.cit, p.37

²⁹Jean Jacque Rousseau, *Émile, or On Education*, A. Bloom, transl. Harmondsworth, 1991, (original work published in 1762)

³⁰ Elizabeth Hainstock, *The Essential Montessori*, New York, NY: Plume Publishers, 1997, p.39

Rousseau, in *Émile*, addresses this dichotomy through his new ideas on education. The fictitious child *Émile* is to be both let free (albeit in a designated area) in order to not hamper his or her potential for natural development. The child, instead of being constrained to a strict curriculum, a time table and a fixed learning path, chooses his or her own path, and perhaps just as important: she is allowed to make mistakes. Through the possibility of making mistakes, the child is responsible for his or her own ‘lessons’. Simultaneously, Rousseau stages several experiments, both to monitor the progress and to instruct the child in various fields (mostly covering ethics).³¹ These are modelled in a way that the child still feels responsible for his or her own actions and accomplishments, maintaining the change in relationship between tutor and pupil. These two concepts, responsibility and liberty, combined with exercises that stimulate the child to think are three elements that other thinkers have picked up.

According to Rousseau, the earliest years of education need to be that of teaching virtue and truth because it preserves the heart of the child from vice and the spirit of error. For him, there are three main things that can enhance education; nature, man and things. Nature is the first means to education which refers to the natural faculties and organs. As we grow, the things we experience act as the first teacher to us and it is from these that children learn lifelong concepts. Man must use the value that we make out of education and the things around us. He brought up a good foundation for a child-centered education. Education for him should be carried out in a way that will possibly work in harmony with the development of the child’s natural capacities. This can be done through autonomous discovery.

Thirdly, Pestalozzi’s ideas influenced Montessori’s educational thoughts because he believed that social progress could be attained through a new method of teaching. He argued that children should largely be left to their own interests and experiences, as they learn a lot from using just these without any external interference. Thus by recognizing the potential of the child, he also preserved individual integrity, a quality he strongly defended. These ideas were set forth in his book *How Gertrude Teaches Her Children* which largely covers the Pestalozzian Method. In this book, he shows how his fictional mother Gertrude became the mother and teacher of her young children by including them in her everyday task with love and understanding.³² Pestalozzi promoted the importance of the parents in the child’s learning. He saw the child’s moral, physical and intellectual development as the purpose of his work. He

³¹ Jean Jacques Rousseau, *Émile, or On Education*, op.cit, p. 34

³² Robert Rusk, *Doctrines of the great educators*, New York: MacMillan Press, 5th ed, revised by J. Scotland, 1979

trained older children to tutor young ones and taught them how to use variations in teaching methods with the younger peers. Pestalozzi himself used modeling as his teaching strategies, strategies that will reappear in Montessori's educational method.³³

Furthermore, he believed that children should also learn through material objects, and not just through words as the case was with the traditional method. He was of the view that within this environment, self-activity, individual development and concrete experiences of the children were encouraged. These later became the key principles of child-centered education. One of the major educational principles advocated for by Pestalozzi that influenced Montessori was the training of the senses. This was based on the idea that all thinking starts with an accurate observation of concrete objects. The school and the home were two places in which the child's direct experience of objects saw the implications and richness of these ideas and refined them for greater use.

Also, Frederick Froebel and his ideas on kindergarten education greatly influenced Montessori. According to him, learning is essentially what children do and not what is done for children.³⁴ He mainly focused on young children, laying the foundation for the kindergarten, a method (although varying in execution) widespread nowadays for educating young children. The original kindergarten presented the children with carefully designed toys that would stimulate optimal individual development. He established a school for young children in the year 1837. In this school, he developed a curriculum which combined indoor and outdoor activities, providing opportunities for gardening, nature study, outings, songs and games. He also published a book on the education of the young which Montessori later developed in her own way. Froebel created the "kindergarten" or "child garden" because he believed that his classes were gardens for children rather than schoolrooms. He believed that part of each day should be spent in play and the rest of the day on a teacher-directed curriculum based on what he termed gifts and occupations. Gifts were to be handled by the child to achieve a sense of reality, whereas occupations were used to train the eye, hand and mind. Examples of gifts were balls of bright colors, while that of occupation was weaving using strips of paper.³⁵

³³Williams Leslie, Determining the early childhood curriculum: The evolution of goals and strategies through consonance and controversy, In C. Seefeldt (Ed.), *The early childhood curriculum: current findings in theory and practice*, 3rd ed., New York: Teachers College Press, 1999, p.1-26,

³⁴Frederick Froebel, *The Education of Man*, trans. W.H. Hailman, New York: Appleton, 1896, p.7

³⁵Samuel Braun and Esther Edwards, *History and Theory of early childhood education*, Belmont, CA: Wadsworth, 1972.

Froebel's aim as an educator was to arrive at certain universal principles of life and to apply them scientifically so as to be able to fully develop man's spiritual nature. His ideas focused on children experiencing the real world as well as unfolding their natural capacities. He saw learning as a process of self-discovery in which children pass through successive stages of development. This greatly influenced Montessori to pursue her educational adventure which was child-centered. According to Standing, Montessori's system was a "...natural development of Froebel's in terms of pedagogy and philosophy."³⁶ Both Montessori and Froebel created specially designed materials for teaching through self-activity. In the process of developing her own ideas, Montessori made good use of Froebel's insights as well as those of other thinkers. No doubts Montessori was seen as an eclectic borrower.

1.2 Discovery based learning

Educators have for the past decades realized that for students to be successful, it is necessary to help them and their society at large. Discovery based learning is also referred to as Problem-Based learning, experiential learning or 21st century learning. Discovery based learning can be defined as an active, hands-on style of learning where the learner participates actively in the learning process rather than passively receiving knowledge as if he were an empty vessel to be filled by the instructor.³⁷ Jerome Bruner is often credited as the founder of discovery based learning in the 1960's. The aim of education under this method should be to create autonomous learners. It helps them to learn how to learn as Bruner affirms; "practice in discovering for oneself, teaches one to acquire information in a way that makes information more readily viable in problem solving."³⁸ This type of learning takes place in situations where the learners interact with their environment by exploring and manipulating objects in order to solve problems. This method motivates learners to build on past experiences and knowledge, make use of their intuition, imagination and creativity as well as search for new information, correlations and new truths. As affirmed by Conway Judith,

*in order to succeed in the 21st century, schools must graduate students who are prepared to be lifelong learners. This challenge necessitates a pedagogical shift from transmitting a body of expected knowledge that is largely memorized to one that is largely process oriented.*³⁹

³⁶Emily Standing, *Maria Montessori, Her Life and Work*, New York: American Library, 1957, p.320

³⁷Emily Sandford Brown, *Discovery learning in the classroom*, Oakville, Sheridan college, 2006, p.1

³⁸Jerome Bruner, "The act of discovery", in *Harvard Educational Review*, Vol.31, issue 1, 21-32, 1961, p.26

³⁹Conway Judith, *Educational Technology's Effect on Models of Instruction*, 1997

The direct method of instruction that was used in the earlier part of the century, though effective for some skills is giving way to a more cooperative approach. In this light, we are made to understand that right from the time of Socrates, (known for his Socratic method of inquiry in the building of knowledge and understanding) students were encouraged to ask questions, experience and discover in order to learn and gain deeper meaning. It was only in more recent times, with the establishment of an institutionalized schooling system that a different, more practical form of educational pedagogy was developed. With this, students are encouraged to think, ask questions, hypothesize, speculate, cooperate with others and develop confidence in problem solving and in using what is in their own minds. One that involves the students working for a common good, teachers serving as coaches and facilitators, letting students discover things for themselves.⁴⁰ A learner's prior knowledge in this model affects his subsequent learning. Piaget, for example, viewed children as little philosophers and scientists building their own individual theories of knowledge. "Piaget's research clearly mandates that the learning environment should be rich in physical experiences. Involvement, he states, is the key to intellectual development, and for the elementary school child this includes direct physical manipulation of objects."⁴¹ This type of learning is said to be active based and puts more responsibility on the learners. When the learners are placed in the position of having to figure out a problem, he or she is much more likely to take charge in his own learning. In order for the discovery method of learning to reach the best possible outcome, there are some common principles that guide its application. Some these include the following;

In the first place, through exploring and problem solving, students take on an active role to create, integrate, and generalize knowledge. Instead of engaging in passively accepting information through lecture or drill and practice, students establish broader applications for skills through activities that encourage risk-taking, problem solving, and an examination of unique experiences.⁴² Students therefore play an active role in the learning process. Students must build foundational knowledge through examples, practice and feedback. It is good because it offers an active engagement of the students as well as foster curiosity. A student needs to experience an event in order to make it meaningful.

⁴⁰Idem

⁴¹ Haury David and Rillero Peter, *Perspectives of Hands-On Science Teaching*, North Central Regional Educational Laboratory, 1994.

⁴²Bicknell Holmes and Paul Seth, "Elicit, Engage, experience, explore: Discovery learning in library instruction" in *Reference Services Review*, vol. 28, issue 4, 2000, 313-322, p.317

Secondly, through learner management, learners are usually allowed to work either on their own or with other learners. There is freedom and flexibility leading learners to learn at their own pace. Learning is not a static progression of lessons and activities. This attribute contributes greatly to student motivation and ownership of their learning. We also have integrating and connecting in which learners are helped to combine prior knowledge with newly acquired materials and motivates them to connect to real life experiences. This increases creativity and analytical thinking of the participants.

There is equally the process of information analysis and interpretation, discovery based learning is not content-oriented but process oriented. Students learn to analyze and interpret the acquired knowledge and information rather than memorizing it. Here, the emphasis is placed on a mastery and application of overarching skills.⁴³ Process-oriented learning can be applied to many different topics instead of producing one correct answer to match one question that is typically found in content-oriented learning.

Another important principle of discovery based learning is that of failure and feedback, learning does not only happen when learners are able to acquire the right answers to existing problems but also through failure. Without the opportunity for feedback, learning is left incomplete. Instead of students learning in isolation, as is typical in the traditional classroom where silence is expected, students are encouraged to discuss their ideas to deepen their understanding. Student learning is enhanced, deepened, and made more permanent by discussion of the topic with other learners.

According to Rousseau, knowledge is never imposed but discovered. He believes that letting the child know through experience would make him smarter, rather than using words or expressions to explain things to him. For example to teach geography, the use of globes and maps is not necessary, what is important is showing the child the real object itself (in the environment) so that he would know exactly what you are talking about.⁴⁴ He champions discovery learning and sees it as a long and difficult process requiring an insight into what needs to be discovered, in what order, and how best to set up the situation in which the right discoveries will be made.⁴⁵ Teachers play a crucial role here by finding ways to encourage this drive for knowledge. The teacher must always help the students and lead them to ask the kinds

⁴³Charles Bonwell and Eison James, *Active Learning: Creating Excitement in the Classroom*, ASHE-ERIC Higher Education Reports, 1991.

⁴⁴ Jean Jacque Rousseau, *Emile or On Education*, op. cit, p. 168

⁴⁵ Ibid.

of questions about their understanding and beliefs in all areas of life in order to provide these young students with the necessary experiences that will help them to discover and test these understandings. Teachers need to be ready to see and accept their changing role, one which moves the teacher from one who knows everything and passes all to the students who are considered as blank sheets to one who facilitates learning. What should be noted is that, a teacher must ensure that what is discovered is educationally valuable and that further investigations are supported and encouraged. You have to make things interesting if you want to teach a child about anything. For instance, take them out on a boat, let them see, feel and smell to excite their curiosity, they would discover or have direct contact with the environment or nature. In summary,

Teachers become a poser of questions, a provider of hints, a provider of materials, a laboratory participant, a class chairman and secretary. He/ she gathers the class together and solicits data gathered and their meaning. Most importantly, the teacher is not a teller. He/ she is a facilitator and director of learning. If materials are well chosen, good questions are posed, timely ideas are suggested, and students are prompted to think through questions, alternatives, answers, and data, then much can be done to encourage the acquisition of more adaptive mental structures.⁴⁶

Also, from the time the child is born until when he or she reaches school, the way he learns about his world is through discovery. This is shown in the fact that;

Children are naturally curious and inquisitive, and love to explore their environments. It is normal to want to know how things work and why the world is the way it is. At its most basic level, this is what science is all about... The most important tool in education, then, is this: what tools are children given to understand the world.⁴⁷

Lev Vygotsky emphasized the impact of cultural and social influences on cognitive development, particularly the interaction of children with other people in cognitive development.⁴⁸ Vygotsky introduced the theoretical concept of the zone of proximal development. In this concept, Vygotsky theorized that there is a difference between what a child can accomplish in isolation and what he or she can accomplish with assistance. In other words, a child is capable of solving more complex problems at a particular mental age if the child has peers, teachers, and parents to assist in building the needed experiences. A good

⁴⁶ Lawson Anton E, *Neurological Basis of Learning, Development and Discovery: Implications for Science and Mathematics Instruction*, Secaucus, NJ, USA: Kluwer Academic Publishers, 2003. p.24.

⁴⁷ Micheal Shermer, "Why People believe weird things: Pseudoscience, Superstition, and other Confusions of our Time", 1997, www.skeptic.com retrieved May 31, 2023.

⁴⁸ Rice Margaret and Wilson Elizabeth, "How technology aids constructivism in the social studies classroom", in *Social Studies*, vol.90, no1, 1999, 28-33.

example of this theory is a kindergarten child who has been taken to a great deal of different cultural experiences that were discussed by a parent. The child will have a larger vocabulary, be able to relate to much more of the new content presented in the classroom, and be more eager to learn.⁴⁹ Without discovery learning, students must rely on memory and abstract thought, two methods which restrict learning in most students. John Dewey writes that abstractness is the worst evil that infests education⁵⁰. By actually doing and experiencing science, students develop their critical thinking skills as well as discover scientific concepts. This self-discovery stays with students throughout their lifetimes while memory fades.

In Montessori's own view, discovery can be well utilized within the context of a well prepared environment. This refers to the classroom environment designed to provide children with materials they are cognitively ready to explore and use to develop skills. It has been noted that

A well planned relevant class project has extremely high motivation and is a dynamic tool for discovery. A class project, creatively presented, can help students conceptualize many aspects of what they have studied in class. Their discovery is well worth your time⁵¹

If students are to engage in discovery in the classroom, they will need access to information and equipment in order to investigate and test their ideas. A Discovery Learning classroom needs to be full of resources, and more of them, including access to books, videos, magazines, computers, even experts in the field.⁵²

Discovery Learning allows for each child despite their individual strengths and challenges to have an experience, of their own making which will deepen their knowledge and understanding of any topic, but especially in math and science. Students will remember the material better and feel a sense of accomplishment when the task is completed. Students who have learned through discovery will be able to transfer that experience easier to other learning situations. A teaching approach that allows students to explore nature, to discover what they do not know, and to eventually make connections with what they do know (often using analogies), which makes learning more motivating, easier, better understood, longer lasting and more transferable.⁵³

⁴⁹ *ibid*

⁵⁰ Dewey John, *Interest and Effort in Education*, New York, USA, August M. Kelly Publishers, 1913.

⁵¹ Susan Mamchak, *Handbook of Discovery Techniques in Elementary School Teaching*, Parker pub. Co; 1st ed., 1977, p.158

⁵² Emily Brown, *Discovery Learning in the Classroom*, Sheridan College, 2006, p.5-6

⁵³ Lawson Anton E, *Neurological Basis of Learning, Development and Discovery: Implications for Science and Mathematics Instruction*, op.cit, p.41

When more than one method of learning is accessed as in hands-on learning, the information has a better chance of being stored in the memory for useful retrieval. Without discovery learning, students must rely on memory and abstract thought, two methods which restrict learning in most students. John Dewey writes that abstractness is the worst evil that infests education. By actually doing and experiencing science, students develop their critical thinking skills as well as discover scientific concepts. This self-discovery stays with students throughout their lifetimes while memorized facts fades.

1.3 Education from Birth

Montessori discovered that working with children older than three years of age was too late to be able to have the most beneficial effects on their lives. As such, she initiated the idea of education from birth. This is because she believed that once the first stage has passed in a child's life, he or she adapts himself easily to the world and begins to travel on the path of independence.⁵⁴ She affirms that "all that we are ourselves has been made by the child we were in the first two years of our life."⁵⁵ According to her, the child is endowed with a psychic life and this life needs to be fully developed right from birth. In this light, she saw the need for man to develop his psyche first, and this must be in accord with the environment and changing conditions in the evolving human society.⁵⁶ Montessori saw that when the child reaches six months and above, certain phenomena start presenting themselves as signs of normal growth. These changes are both physical and mental and mark the first step of independence for the child. From this, the child gradually grows and starts building motor skills, need for order, interest in small objects and purposeful activity, as well as communication and language skills.

She affirmed that "So the first period of life has been fixed for the storing of impressions from the environment, and is therefore the period of the greatest psychic activity; it is that activity of absorption of everything that there is in the environment".⁵⁷ At this stage, the child has an absorbent mind that is like a sponge. This absorbent mind is a time of unlimited possibilities when the child absorbs and internalizes experiences, events, sensory stimulation with great energy and enthusiasm. She recognized the enormous potentials in children which needed to be nurtured and nourished in the home. He or she experiences and mimics everything

⁵⁴Maria Montessori, *Education for a new world*, Adyar, Madras, India: Kalakshetra publications, 1946, p. 44

⁵⁵Maria Montessori, *The Absorbent Mind*, New York: Holt, Reinhart and Winston, 1971, p.6

⁵⁶Maria Montessori, *Education for a new world*, op.cit, p.36

⁵⁷Ibid. p.37

seen, heard or touched including people, sounds, textures and movement. From this she affirmed that;

Soon he can express himself and has not to depend on others to guess his needs; truly, a great conquest towards independence. Sometime after this achievement, at the age of one year, the child begins to walk, thus freeing himself from a second prison. By these successive steps, man becomes free, but it is not as yet a matter of will; independence is a gift of nature leading him to freedom.⁵⁸

Montessori acknowledges the fact that no education can teach the child to walk before its time. Here, nature herself commands and must be obeyed. Observing the child shows that normally, he has the desire to act independently, he wants to carry things, to dress and undress alone, and equally to feed himself.

From the beginning, Montessori observed the children's reactions to their new environment without any preconceived ideas of what would happen. These observations provided opportunities to understand better the children and the materials themselves. This was what we would call today, action research. She modified the materials in relation to the children's use, adapting them further for the use of children without learning difficulties. Montessori's observations gave her a further insight into the nature of children and formed the basis of the discoveries. As a result of several years of scientific research and observation, Montessori discovered what she believed were the natural characteristics of the child.⁵⁹ For her,

to cultivate mankind signifies precisely to activate the hidden psychic energies existing in the child, allowing this flower of humanity to develop with greater richness and beauty. If we do not adopt this method, humankind will forever remain imperfect.⁶⁰

Among these chief characteristics, Montessori noted the following;

- Amazing ability to concentrate and to repeat activities that are of deep interest at specific levels of development. This shows that within the classroom setting, the child can stay focused for several hours on specific lessons.
- The desire and ability to make choices independently. A Feeling of autonomy develops in children. This is usually seen as they begin to explore their environment independently.

⁵⁸Ibid, p. 40

⁵⁹Emily Standing, *Maria Montessori, Her Life and Work*, op.cit, p. 40-50

⁶⁰ Maria Montessori, Lecture I, "The Creative Capacity of Early Childhood" in *The San Remo Lectures: AMI Pamphlet*, 1949, p. 79

The child only has to be directed by the teacher. He or she is naturally fit to make intelligent choices under the special guidance of their teachers.

- The desire and ability to restore order and put things in the right track. With carefully designed materials, the developmental needs of the child are answered which are as compelling as breathing and eating to the growing child.
- Love of silence and a profound sense of dignity. Children enjoy silence and are willing to participate in activities within the class in an orderly and disciplined manner.
- Children pass through definite periods in which they reveal psychological aptitudes and possibilities. When the child's sensitive stages are well exploited and fulfilled, it not only increases his intelligence but gains contentment, satisfaction, feeling of self-confidence and a desire for further learning.
- Deep level of concentration and joy in repetitions which led to high level of manipulative competence and capacity for respectful behaviors between children. There is what Montessori refers to as 'cohesion for social unit'.
- Children portray a concrete and literary thinking capacity. They do not think figuratively like adults. All they portray is the love to explore, and touch, feel, smell, taste, watch and wonder about everything around them
- Self-discipline and a sense of joy and strength from appreciated work.

Montessori indicated that her strong belief in the natural ability of children was based upon religious faith as well as scientific observation. She believed that the child possessed the necessary curiosity or desire for knowledge as she explained;

The child is a body which grows, and a soul which develops. These two forms, physiological and psychic, have one eternal font which is life itself. We must neither mar, nor stifle the mysterious powers which lie within these two forms of growth, but we must await from them the manifestations which we know will succeed one another. Further, the environment is undoubtedly a secondary factor in the phenomena of life; it can modify in that it can help or hinder but it can never create The origins of the development, both in the species and in the individual, lie within. The child does not grow because he is placed in conditions of temperature to which he is adapted, he grows because the potential life within him develops and making itself visible.⁶¹

⁶¹ Maria Montessori, *The Absorbent Mind*, New York: Holt, Reinhart and Winston, 1971, p.127

These were extraordinary findings and resulted in changes and practices which are still in effect today. At the turn of the century, she proclaimed it “The Century of the Child.” Her proclamation was followed by actions resulting in self-correcting teaching materials and equipment, in addition to the concept of a “prepared environment.” The latter allowed children the dignity of discovery, self-discipline and growth without harmful interference by adults. Children were encouraged to organize and systematize the learning experience according to their own inner urging.

Montessori believed that if appropriate support from the adult is not available, opportunities will be lost or the child will miss out on developing to their full potential. Sensitive periods are universal, evident in all children around the world. They are also present within the child at birth and can be concurrent and ‘run parallel to each other’. Each sensitive period reaches its peak at a different time during the first six years of life. For example, the sensitive period for language starts in the womb when the baby recognizes their mother’s voice. Babies are pre-disposed to respond to human language. They listen attentively before their first word is uttered. Then between eighteen and thirty-six months, the child’s language explodes, from passive to active vocabulary, using language appropriately within the social context and manipulating it to demonstrate a sense of humor. However, if children are not exposed to opportunities to hear rich language used in the context of everyday life, the potential of their ability to communicate effectively will be limited by the lack of experience. The sensitive period for order is evident from birth and reflects the baby’s need for routines that provide predictability and consistency from which sense of security emerges. As the child grows, they will be able to orientate themselves within the home through familiar arrangements and the child will adapt to them. For example, when going for a walk, we may be surprised by the toddler’s ability to ‘find the way’. It is their sensitive period for order that helps them to absorb the route we have taken on many previous occasions. By the time they are two years and above, they will be able to find toys in their room and also be able to replace them where found. The external order will be supporting their initiative as well as organizational skills and problem solving.

It was these discoveries that made Montessori believe that these characteristics represented the potential of humanity. She advocated that all children should be given the opportunity to ‘reveal themselves’ in a developmentally appropriate environment that would facilitate their natural growth and development. It was seen that the common (public) schools of Montessori’s days were designed to impart knowledge and information to the students. The

student's primary role was to remember the information given and be able to pass the examinations. This shows that;

*The importance of the early use of hands-on learning has been long recognized. The study of both plants and animals should begin in the lowest grades, or even in kindergarten. One object of such work is to train the children to get knowledge first hand. Experience shows that if these studies begin later in the course, after the habit of depending on authority - teachers and books - has been formed, the results are much less satisfactory.*⁶²

The students were viewed as little adults in need of humanization. A few educators and philosophers had made attempts to change the treatment of young students, but the old ways and beliefs were hard to change. Montessori discovered that the young learners had more to offer to the teaching-learning process. As Montessori discovered that children possessed different and higher qualities than those usually attributed to them, she set out to establish a new and more effective educational view which was out to revolutionize education at her time. She explained that: “It was as if a higher form of personality had been liberated, and a new child had come into being.”⁶³

1.4. Human tendencies as a driving force for adaptation in education.

Human tendencies are innate universal human traits. They are considered to be present in every human being and serve as intrinsic powers which guide their development and motivate behavior. For this reason, they should be assisted at every stage in life for education to be complete. This is because of their motivational effect on an individual. Margaret Stephenson defines human tendencies as;

*the human tendencies are innate in man. They are the characteristics, the propensities, which allowed the human being, from his first inception on earth, to become aware of his environment, to learn and understand it [...] Each child, as he is born, enters, as did the very first human being, an environment created for him but unknown to him. If he was to live his life securely within it, he had to have a way of making a knowledge of it. This way was through the human tendencies”.*⁶⁴

This shows the reason why Mario Montessori affirmed that “knowledge and understanding of these human tendencies forms part of the basis for an education which is designed to assist the

⁶² Hoary David L. and Rillero, P. *Perspectives of Hands-On Science Teaching*, North Central Regional Educational Laboratory, 1994.

⁶³Emily Standing, *Maria Montessori, Her Life and Work*, op. cit, p.40-50.

⁶⁴Margaret Stephenson, *The Relevance of Montessori Today: Meeting human needs- principles to practice*, AMI USA National Conference, Washington, Bellevue, 1997, p. 10–11

optimum development (preservation) of each individual.⁶⁵ Once we are aware of the underlying forces that motivate human behavior and development, we will be able to know how to guide our learners grow into more fulfilled individuals. Montessori believed that being able to remove all the obstacles to the learner's natural tendencies will lead them to flourish in the pursuit of knowledge. Humans have creative tendencies (tendencies which motivate behavior and activity which construct the human body, mind, spirit and self) and process-oriented tendencies (which motivate and guide how the self-functions, that is how we do things, how we accomplish and how we act in the world).⁶⁶ These tendencies are as follows;

In the first place, humans have the tendency of activity or work. Implicit in all humans is the fact that they act and are always motivated to be active, to move in response to these motivations and what they think can be of their interest. With this, learners are pushed to do something that is purposeful and meaningful in relation to the pursuit of knowledge. It is from this tendency that one can attain a feeling of satisfaction and fulfillment in his or her educational carrier.

Secondly, there is a tendency for self-preservation and self-development. There is always a powerful motivation to protect and maintain, to keep safe and alive the life of the intellect and the spirit as well. The tendency for Self-preservation becomes a huge category for humans. In addition to behaviors which guarantee physical life, there are motivations equally powerful to protect and maintain, to keep safe and alive, the life of the intellect and the life of the spirit as well.⁶⁷ When we think of self-preservation for the human being, we must remember this holistic self which is maintained, safe-guarded and preserved, including the human phenomena of sacrificing physical existence for the sake of an ideal, an idea, a belief, or a beloved. There is, however, what might be termed a hierarchical relationship among them and certainly the needs met through the tendency of Self-preservation are supreme in this hierarchy. There is also a hierarchy within the category of Self-preservation. First and foremost, are basic physiological needs such as food, water, movement, protection from the elements, and sleep among others. Then come needs for physical safety; and needs for psychological safety. As these basic physiological and security needs are met, other needs come into play, needs to belong to a group, to be in some way cherished and loved by others; needs which could be

⁶⁵ Montessori Mario, "The Human Tendencies and Montessori Education", in AMI Journal, 2nd edition, 1956, p.20

⁶⁶ Ibid., p. 23

⁶⁷ Montessori Mario, *Education for Human Development: Understanding Montessori*, New York, Schocken Books, 1976.

termed “self-esteem” or “self-concept” needs; and needs to continually strive and grow as an individual. When any of these needs are in jeopardy, the entire being of an individual will focus on securing them and all other motivations further along in the hierarchy are sublimated.⁶⁸

Thirdly, we also have the tendency of orientation which helps us to familiarize with surroundings, situation and environment. This happens while gaining secure, usable knowledge and experience within the environment. When an individual finds himself in an unfamiliar territory, he becomes disoriented, anxious, uncomfortable, insecure, and stressful while trying to orient himself. As time passes, we gradually begin to feel at home and then it becomes easy and even automatic to find our way in our environment, which lessens our stress and anxiousness. The learner’s orientation helps he or she to know where and how he or she fits into a particular time or environment and how to adapt. Educators always need to give the child freedom and information necessary to his or her orientation without too much interference. Orientation provides learners with an understanding of the limits and boundaries within the environment.

Going further, humans are endowed with the tendency for exploration. This is the tendency to examine and investigate for the purpose of discovery. Here, there is always a new motivation to move out beyond the familiar, to explore, to examine and investigate the unknown, to find out more, seeking new knowledge and new experience. Learners explore to be able to construct inner knowledge and also experience the environment in which they study. Children are naturally curious and love to use their senses as they absorb the world around them. The young child is a great scientist. He has to create a hypothesis, research this hypothesis, and test it out in order to form his own conclusions about the world around him. There are few adults, even in the scientific field, who can equal the infant’s zeal and energy in sorting data through his primitive mind.⁶⁹ This is important and crucial for the child to explore in freedom in order to understand the learning environment and assimilate the information gained from it.⁷⁰ This tendency to explore refers not only to physical exploration, but also intellectual exploration. We can explore ideas in our heads, and we can think of greater ways

⁶⁸ For a non-Montessori discussion of the hierarchy of basic needs, see Abraham Maslow, *Motivation and Personality*, 2nd Edition: 1970, particularly Ch. 4 “A Theory of Human Motivation”. Maslow’s delineation of Basic Needs is: 1) Physiological Needs; 2) Safety Needs; 3) Belongingness and Love Needs; 4) Esteem Needs; 5) Need for Self-actualization; 5) Aesthetic Needs. Mihaly Csikszentmihalyi gives another perspective on what we call Human Tendencies, in *The Evolving Self*, New York: Harper Collins, 1993, pp. 219-220.

⁶⁹Xavier Angelo Barrameda, “Human Tendencies Authentic Guideposts to Human Characteristics Across the Planes”, in *AMI JOURNAL 2020*, p.111

⁷⁰Katherin Edlin, *Infant and Toddler Guide*, Renaissance Montessori school, retrieved from www.montessorichild.org

to nourish our intellect without limits. For exploration to promote the educational goal of building human potentials, there is need for adults or teachers to find productive and satisfying ways for the child to explore. This is because if the learner is constantly restrained and kept quiet, he will not develop the gift of exploration.

Also, there is the tendency for order. Through this tendency all the experiences, information and knowledge gained through orientation and exploration are put in order. Humans are capable of organizing their discoveries about the world. In doing so, there is an exercise of intelligence, which is the first and foremost; the intelligence for order, that is the power to make connections and form associations among separate species of acquired information.⁷¹ We also put to use another human tendency which is that of communication. This is motivation to behave interactively with the environment as well as with human beings. It shows humans social nature and an interest in the need to connect with others in an interactive relationship. According to Montessori,

*the child's sensibility to order has two simultaneous aspects; the outer, which concerns relations between the parts of his environment, the inner, which gives him a sense of the parts of his body, their movement and position. This latter aspect we may call inner orientation.*⁷²

The outer orientation takes care of the relationship between the child and the environment in which he or she finds himself and interacts with. The inner orientation speaks of the relationship with the body, that is coordination of the mind and the muscular system with regard to movement.⁷³ This love for order is the basis for the mathematical mind's development. That is the idea of a place for everything and everything in its place. This is important in education because if an element in the learner's environment is out of place, there is bound to disaster until the environment is set back into the proper order. Disorder leads to disorientation and consequently deviation in behavior within the learning environment. This tendency emphasizes the need for a well prepared environment as a major requirement for the fulfillment of our educational goals.

In addition, human beings also have the tendency of communication. Communication is about the human spirit, about cooperating and sharing with each other. Beyond that, human beings have minds that can imagine and reason, so there is this desire to communicate thoughts and ideas. This tendency is seen to be evident in the infant. It is at work even before the child

⁷¹ Derek Bickerton, *Language and Species*, Chicago: University of Chicago press, 1990, p.10

⁷² Maria Montessori, *The secret of Childhood*, Hyderabad, India: Orient Longman Private Limited, 2003, p.55

⁷³ Lectures on Human Tendencies, submitted to: Jeri Grant-Miller, Center for contemporary Montessori Program, June 27, 2007, p.3

can walk, crawl, or talk. The child has an insatiable thirst for language. He absorbs all sounds around him and is able to filter out those that are not needed for human communication. Communication is not just language development, although that is part of it. It also deals with the motivation to be connected, to be vitally linked with our physical surroundings and with the other beings in our surroundings. It is a learner's social nature, interest in others and profound need to connect with others in an inter-active relationship. Communication is a two-way relationship, with each side being capable of initiating as well as responding. Communication is about the human spirit, about cooperating and sharing with each other. Communication is closely related to the tendency for activity.

The learning environment earlier prescribed by Montessori responds to all the aforementioned tendencies, giving much reverence to the specific stages of development. These tendencies help the learners and continually adapt in their learning environments and subsequently adapt their environment to suit their needs. Human tendencies motivate students to engage in activities that will aid them in reaching their full potential. Educational practices should embrace the distinct personalities that learners are born with, and guide them down the path of life. The relationship between all these tendencies is not linear but has a hierarchical relationship. With this, if a learner is getting into a new environment, the tendency for exploration encourages him to get to know the surrounding using the senses. Having explored the environment, this human tendency for order comes in place and he begins to create a sense of order within such an environment. This allows him to build certain expectations about the environment. With an understanding of the order of things, the learner uses the tendency for orientation to understand his place in such an environment.

All human tendencies function together to encourage all learners to strive for physical, emotional, intellectual and spiritual independence. The way each of these tendencies is manifested will vary according to the developmental stage of the learners. For example; the young child will use his tendency for exploration in a physical sense, using his hands and his senses to explore and orient himself within the physical environment. An adolescent on his part will use these tendencies in a more intellectual sense, through research or introspection.⁷⁴

⁷⁴Human Tendencies Montessori, 2017. Retrieved from <https://phdessay.com/humantendencies-montessori>, February 17, 2020.

1.5 Education of children with special needs

Research on the education of children with special needs influenced Montessori's interest in the role of pedagogy as related to development. It was as a result of Montessori's study of children with mental illnesses that she became motivated to study education as a more general field. As a result, she pursued her studies laying more emphasis on the foundations and aims of education. The term special needs is loosely used today to include all children who are different. It applies to the mentally retarded, the physically handicapped, the emotionally handicapped, the cerebral palsied, the autistic syndromes, the learning disabled as well as the gifted child. In her time, she heavily criticized the prevailing practice of confining mentally impaired children to insane asylums with adults. She urged that they be admitted to educational institutions. This is because she believed that mental retardation was more of a pedagogical than a medical problem.⁷⁵ With this in mind, she saw the need for the placement of these children into educational institutions in which they would receive the necessary training. The classes they received were to be special in which psychiatrist and pediatric specialists could help determine each child's needs and prescribe for each the best learning strategy.⁷⁶

Montessori highlighted the necessity of employing modern scientific knowledge to be able to meet the real needs of retarded children. She argued that "our efforts will have to go into gaining an understanding of those children who have the most difficulty adapting to society and helping them before they get into trouble."⁷⁷ In 1900, Montessori was appointed co-director of the state orthophrenic school, a medical-pedagogical institute to train teachers in the care of children with special needs. Through her close study of Seguin, Montessori developed the principle that embodied her entire work with normal children. She believed that education of the senses must precede that of the intellect. She wrote, "once the education of the senses is underway, along with the arousal of interest, we can begin real instruction."⁷⁸ While observing and experimenting with different methods, Montessori drew conclusion based on children's reactions. Most special needs individuals are very tough and tenacious in confronting the challenges life presents to them. In spite of the difficulties they face, they continue to respond to the best of their abilities. No matter how severe the disability, the special needs person never

⁷⁵ Maria Montessori, *The Montessori Method. Scientific pedagogy as applied to child education in "the children's houses"* op. cit p.3

⁷⁶Rita Kramer, *Maria Montessori, A Biography*, Reading, Massachusetts: Perseus Books, 1988, p.73-76

⁷⁷ ibid, p.75

⁷⁸Maria Montessori, *The Montessori Method. Scientific pedagogy as applied to child education in "the children's houses"* op.cit, p.38

stops trying to make a more successful adaptation. In her words, instead of treating the class of students with special needs as if they formed a group apart, we should consider them with relation to normal children as though they were. It was such conclusions that later became the Montessori Method. Her experiments also led to an “original method for the teaching of reading and writing.”⁷⁹ Montessori taught many children with mental problems and when presented for examinations at public schools along with ‘normal’ children, they succeeded. Moreover, Montessori saw “in the children's behavior a craving of a very different and higher kind than for mere food ... She realized, one path, and one only, towards intelligence and that was through their hands ...”⁸⁰ Montessori prescribed a number of basic guidelines that can help in the education of learners with special needs.

To begin with, learning in a Montessori setting deals with hand-on activities. Students learn by doing and are free to move about. This is an advantage for those who require a high level of physical activity or may have difficulty sustaining attention. Secondly, the organizational structure of the classroom helps the learners to develop management skills that lead to independence, especially for learners with functioning deficits. Our prepared environments encourage young children’s movement to use their hands to learn from the environment that is free from adult interference. Montessori also found that special needs children show little sensitivity to pain or tactile stimuli. Therefore, she set about restoring these sensations as a first step to learning which is by hot and cold baths, sensitizing fingers, and massage among others. We equally have the idea of multi-aged classroom which promotes kindness and acceptance. Students learn from others and experience new challenges by observing their mates. Within the multi-aged classroom, each child works at their pace. There is equally freedom of the children in a Montessori classroom, children have the freedom to choose their activity, which develops their intrinsic motivation to work and learn. More so, in a Montessori classroom, children are free to respond to their innate biological processes of development, which allows them to optimize their self-construction. Montessori tells us that;

*Nothing in fact is so fascinating as to attend the mental awakening of these children who are enslaved by their own inferiority, and to witness this kind of liberation of their soul ... opening up toward interests that give life to their intelligence, to witness the happiness that comes to them through every activity in which the hand becomes capable of achieving something*⁸¹

⁷⁹ibid, p.40

⁸⁰Emily Standing, *Maria Montessori, Her Life and Work*, op.cit, p 28

⁸¹ Maria Montessori, *Discovery of the child*, op.cit, p.24

The more she came into contact with these youngsters and contemplated their condition, the more convinced she became that their mental deficiency was a pedagogical problem rather than a medical one. She felt that with special education treatment, their mental condition could be immensely enhanced. She stated as such;

That form of creation which was necessary for these unfortunate beings, so as to enable them to reenter human society to take their place in the civilized world and render them independent of the help of others placing human dignity within their grasp was a work which appealed so strongly to my heart that I remained in it for years.⁸²

In 1906, the opportunity arose for Montessori to apply her methods to ‘normal children. She envisioned that the ‘Children’s House’ would have both social and pedagogical significance. That is why she affirmed;

From the very first, I perceived, in all its immensity, the social and pedagogical importance of such institutions, and while at that time, my visions of a triumphant future seemed exaggerated, today many are beginning to understand that what I saw before was indeed of truth.⁸³

The concept of the children’s house was an astonishing progressive idea, serving not only the needs of children and their parents but also the community. In these houses, the children received comprehensive child care services which included their nutritional and health care needs as well as public baths and ‘house infirmary’ for children who were unwell. All these were integrated as part of the educational program.⁸⁴ Montessori saw the children’s houses representing the “unity of the family and the school in the matter of educational aims”⁸⁵ She described this new kind of educational institution as;

this is not simply a place where the children are kept, not just an asylum, but a true school for their education, and its methods are inspired by the rational principles of scientific pedagogy... we see here for the first time the possibility of realizing the long-talked-of pedagogical ideal. We have put the school within the house; and this is not all. We have placed it within the house as the property of collectivity, leaving under the eyes of the parents, whole life of the teacher in the accomplishment of her high mission.⁸⁶

⁸²Maria Montessori, *The Montessori Method, Scientific pedagogy as applied to child education in “the children’s houses”* trans. A. E. George, London: William Heinemann, 1912, p.38

⁸³Ibid., p.43

⁸⁴ Ibid., p.63-65

⁸⁵Maria Montessori, *The Montessori Method, Scientific pedagogy as applied to child education in “the children’s houses”*, op. cit, p.64

⁸⁶ Maria Montessori, *The Montessori Method, Scientific pedagogy as applied to child education in “the children’s houses”*, op. cit, p.64

Here, children work individually or in a group with hands-on activities which are designed to help them develop physically, socially and intellectual. Each activity in this case always prepares the children for later activities so that they move effectively from one activity to the other. This motivated her to believe in the power of the child which when treated in the right way leads to the development of the human potential. She wrote to this effect:

These results seemed almost miraculous to those who saw them to me however, the boys from the asylum had been able to compete with the normal children only because they had been taught in a different way. They had been helped in their psychic development and the normal children had, instead been suffocated, held back... while everyone was admiring the progress of my idiots, I was searching for the reasons which could keep the happy healthy children of the common schools on so low a plane they could be equally in tests of intelligence by my unfortunate pupils.⁸⁷

This shows that Montessori was determined in her pursuits of the education of mentally derailed children and eventually in the progress of those termed normal. Her dealing with these children with special needs played a very vital role in the development of her educational views in general. She concluded that:

We must know how to call to the man that lies dormant within the soul of the child. I felt this intuitively and believed that not the didactic material, but my voice which called to them, awakened the children, and encouraged them to use didactic material, and through it, to educate themselves. I was guided in my work by the deep respect which I felt for their misfortune and by the love which these unhappy children know how to awaken in those who are near them.⁸⁸

Montessori spoke of her belief that we must act upon the spirit of the child, served as a sort of secret key that opened the way for her to obtain lasting results which motivated her to continue with normal children. She further stated that “while my efforts showed themselves in the intellectual progress of my pupils, a peculiar form of exhaustion prostrated me. It was as if I gave them some vital force from within me.”⁸⁹ She became convinced that if her methods could enable “an inferior mentality” to grow and develop, then its use with “normal children would develop or set free their personalities.”⁹⁰ She stated, “Whilst everyone was admiring my idiots I was searching for the reasons which could keep back the healthy and happy children of the

⁸⁷Ibid, p.38-39

⁸⁸Ibid., p.37

⁸⁹Maria Montessori, *The Montessori Method, Scientific pedagogy as applied to child education in “the children’s houses”* 1912, p.37-38

⁹⁰ibid, p.33

ordinary schools on so low a plane that they could be equaled in tests of intelligence by my unfortunate pupils.”⁹¹

Montessori made us to understand that it is not only the materials that will make a difference in the lives of children with exceptionalities or special needs, but the voice of the teacher, which carries within it an invaluable ability to effect unconditional acceptance. It is this feeling of acceptance that leads a child to acquire the foundation of a healthy personality, and that personality is precisely what allows the child to see himself as having just another beautiful way of being, neither better nor worse than others, no matter his condition. There are countless examples of humans who overcame tremendous challenges because there was just one person in their journey of life who was able to see their spirit shining brighter than their deficit.⁹²

In a nutshell, we have seen the early educational philosophers whose ideas greatly influenced Montessori’s educational method as well as the ideologies that characterize the basis of Montessori’s idea of education and the development of human potentialities. Given the fact that there is an increasing need to by-pass the traditional system of education which is more of a banking system, Montessori conceived the adoption of an educational system which encourages the development of individual skills and aptitudes for the growth of the self and the society. She taught that education should reflect the realities of a society and not turning learners into containers to be filled by the teacher.⁹³ In the next chapter, we shall elaborate on Montessori’s idea of education as a means to nurture and release learners potentials.

⁹¹Ibid., p.33

⁹² Silvia Dubovoy, “Inclusive Education in the Age of COVID-19” in *AMI JOURNAL 2020*, p.289

⁹³ Paulo Friere, *Pedagogy of the Oppressed*, trans. By Myra B. Ramos, Continuum International Publishing Group, New York 2005, p.72

CHAPTER TWO

MONTESSORI'S CONCEPTION OF EDUCATION AS A MEANS OF DEVELOPING HUMAN POTENTIALITIES

This chapter examines Maria Montessori's conception of education as an avenue for developing human potentialities. According to Maria Montessori, education is a natural process carried out by the human individual. It is not what the teacher gives and is not acquired by listening to words but by experiences upon the environment. Teachers only help the process to be achieved.¹ Our focus shall be on the goals of education as a means of building human potentialities, the prepared environment, freedom and discipline in the educational process and the four planes of development as windows of opportunity in education. We shall as such be pre-occupied with answering the question; what are the favorable conditions under which education can help to build human potentialities?

2.1. The goals of education

It is generally held that all humans are born with diverse potentials. Regardless of whether evident or not, it is necessary for education to work towards developing individual potentials in learners. According to Maria Montessori, children could be very successful regardless of background or apparent ability, if they were placed in the right environment.² According to her, education should no longer consist only of imparting knowledge, but must take a new path, seeking the release of human potentialities.³ It was when she discovered that children have a remarkable ability to absorb knowledge and teach themselves that she was inspired in her life-long pursuit of educational reform, curriculum development and methodological reform.⁴ She observed that children are characterized by an emphasis on independence, freedom within limits and respect for a child's natural psychological, physical and social development.⁵ The method advocated for by Montessori is essentially a model for the development of a complete human being. It is based on the assumption that; children and developing adults engage in psychological self-construction by means of interaction with their environment. Children who are at liberty to choose and act freely within a well prepared

¹ Maria Montessori, *Education for a New World*, Adyar, Madras, India: Kalashretra Publications, 1946 p.3

² Paul Vardin, "Montessori and Gardner's Theory of Multiple Intelligences". in *Montessori LIFE*, Vol.15, issue 1, 2003, p. 40-43

³ Maria Montessori, *Education for a New World*, op.cit, p.2

⁴ Valentine B. Ngali, *An Introduction to Philosophy of Education in the African context*, PEP, Bamenda, 2014 p.107

⁵ Lillard Paula, *Montessori Today: A Comprehensive Approach to Education from birth to Adulthood*, Knopf Doubleday Publishing Group, 2011.

environment would spontaneously develop at an optimal level. “Each child carries within him/her the potentialities of the man he can become.”⁶ Her goal is for the child to become a responsible, secure, and balanced human being who thinks for himself and who has discovered the joys of self-education.⁷

In order to prepare our students for the responsibilities and privileges of life, Molagun argues that one must see education as the means through which individuals are equipped for life which involves exposure to society, approved knowledge, skills, attitudes necessary for human beings to live comfortably and contribute meaningfully to the development of the society.⁸ In this case education does not consist only in banking knowledge in student's minds. Education should aim at producing, as Whitehead says, “men who possess both culture and expert knowledge in some special direction”.⁹ The most important needs of the nation are practical needs and they can easily be attained through an education that focuses on developing the potentialities of students than in dumping dead knowledge in to their minds. This explains why for the past decades, many philosophers of education have tried to prescribe a definite standard under which they think education can help the individual to develop his or her self and the society at large. From a progressivist perspective, education should focus more on developing the child's nature and abilities. This works by focusing more on the child's potential so as to be able to harness his abilities and aptitudes for self-actualization.

According to Maria Montessori, education should help the child develop confidence in their emerging abilities and offer them the opportunity to gain independence in daily tasks. Montessori was one of the few developmental theorists who devoted her life to the actual teaching of young children. Examining her approach from the perspective of holistic education, Ron Miller writes that;

Montessori’s central concern was the natural development of the child, the healthy formation of the physical, mental, and spiritual qualities that are latent in the human being and which unfold, she believed, according to a purposeful, even divine, life force (for which she used the word hormé).... Given the proper nurturing environment, hormé impels the child to unfold his or her potential personality, to expand his powers, assert his independence, and create an adult identity.¹⁰

⁶ Valentine B. Ngalim, *An Introduction to Philosophy of Education in the African context*, op.cit, p.115

⁷ Ibid.

⁸ Mosunmola Molagun, *Introduction to Philosophy of Education*, Integrity Publication, Ilorin, 2005

⁹ Alfred North Whitehead, *The Aims of Education and other Essays*, The Free Press, New York, 1967, p. 1.

¹⁰ Ron Miller, *what are schools for? Holistic education in American culture* (3rd ed.). Brandon, VT: Holistic Education Press, 1997, p.160

For her, every adopted system of education should help students to bring out their maximum potential.¹¹ We shall as such be preoccupied with answering the question; what are the favorable conditions under which education can help in the development of human potentialities?

For the goals of education as a means of developing human potentialities to be achieved according to Montessori, there are some basic tenets that education must be geared towards, these include the following:

In the first place, education should serve as a process of drawing out what is already within each individual child. To teach the child according to individual needs does not only entail understanding and working on his/her personal attributes, but also to respect and incorporate a child's cultural background. Montessori places much emphasis and value on the personality of each and every child in the educational milieu. She urges learners to develop inner structures out of which their personality can evolve, on their own terms and according to their own experiences. As affirmed by Emile Durkheim, “by universal consent, the supreme goal of education is to develop in the child seeds of humanity which he contains.”¹² Undoubtedly, the Montessori curriculum is designed to cultivate the human being’s innermost potentials into actualization.¹³ This shows that true education helps to bring out to full advantage, makes ready for full purpose and scope of human life all that is in the individual man. It brings out all that is best, most powerful, most intimate and living in the nature of the human being.¹⁴ According to her, a rational education carries out three functions. It helps in acquiring techniques of observation and acquiring facts of which judgments must be made. It also helps in training the learners to use their knowledge and their thought effectively for their own good.¹⁰

In order to do this, the teacher needs to develop the ability to observe the children through a commitment to the process of observation and through the development of self-awareness that enables them to filter out their own inclinations and prejudices.¹⁵ This means that the teacher should observe his or her learners without passing any prior judgments. Today,

¹¹ Maria Montessori, *To Educate the Human Potential*, Adyar, Madras, India :Kalakshetra publications, 1961.

¹² Emile Durkheim, *The Evolution of Educational Thought*, London: Routledge and Kegan Paul. Trans. by Peter Collins, 2005, p.283

¹³“Philosophy Regarding Montessori Education” April 17 2019, Retrieved from <http://www.paperdue.com/essay/philosophy-montessori-education-term-paper-2173732>, February 4 2020 .

¹⁴Sri Aurobindo, *Early Cultural Writings*, the complete works of Sri Aurobindo, vol. 1, Pondicherry, Sri Aurobindo Ashram Publication Department, 2003, p.370.

¹⁵Angelina Stoll Lillard, *Montessori, The Science behind the Genius*, New York, Oxford University Press, 2005, p.265

this observation entails a diagnostic assessment that has risen to importance in the educational sector for the past years. However, at the level of the Montessori oriented observation, it is not limited to academic subject matter, but must entail careful monitoring of the social, physical and psychological progress of the child at the highest possible level.

Secondly, education should foster independence and encourage freedom with responsibility. Montessori saw the development of this independence as depending on two basic variables, that is the adults that guide the child and the environment in which the child lives. The ultimate objective of education is fostering independence where a learner becomes fully grounded on the dynamics of life. According to Jean Piaget, the learners construct meaning through hand-on work and teachers should nurture inquiry and support the child's own search for answers.¹⁶ In the same light, Albert Einstein argued that “the school should have as its aim that the young man leaves it as a harmonious personality... The development of general ability for independent thinking and judgment should be placed foremost.”¹⁷ Montessori's approach has been considered scientific because she used her medical, anthropological and pedagogical knowledge to assess children's development and learning. She affirmed that;

*education must concern itself with the development of individuality and allow the individual child to remain independent not only in the earliest years of childhood but through all the stages of his development. Two things are necessary: the development of individuality and the participation of the individual in a truly social life... the time must be furnished at all times with the means necessary for him to act and gain experience.*¹⁸

Essentially, Montessori clearly did not endorse the absolute trust in student's actions that some progressive educators support.¹⁹ Montessori writes,

*At the base of all these activities there must be going on a gradual conquest, a gradual gaining of independence. This does not mean that one is to do just what one pleases at the moment, or that one is allowed to play about with anything, using it as an accompaniment to one's fancy. It implies to acquire a sense of the power to act alone; the possibility of carrying out some useful and important action without the help of others; being about to solve one's problems for oneself, to reach a difficult goal by one's own efforts.*²⁰

¹⁶ Carol G. Mooney, *Theories of Childhood: An Introduction to Dewey, Montessori, Erikson, Piaget and Vygotsky*, Saint Paul, Redleaf Press, 2000, p.62

¹⁷ Albert Einstein, *Out of my Later Years*, New York, Philosophical library, 1960.

¹⁸ Maria Montessori, *From Childhood to Adolescence*, New York, schoken, 1948, p.56

¹⁹ Kevin Brehony., “Montessori, Individual Work and Individuality in the Elementary classroom”, in *History of Education*, vol.29, issue 2, 2000, p.115-128

²⁰ Maria Montessori, “Principles and Practices in Education” *AMI Communications*, no 1, 1979, p.12-13

Rather, she meant that the teacher should assume the role of a facilitator, attuned to the children's actions and intervene when needed to ensure that students are engaged in constructive activities. In essence, the goal of education in the light of Montessori is not for the teacher to direct, drill or instruct, rather it is to give children opportunities for independent mastery.²¹ This method of teaching has provided a lasting legacy to early childhood education as best described in these words;

*the basis of our teaching is that... the child has to acquire physical independence by being self-sufficient, he must become of independent will by using in freedom his power of choice; he must become capable of independent thought by working alone without interruption... we have to help the child act, will and think for himself.*²²

The teacher in this light has to provide guidelines within which the child should learn successfully. Guiding the child does not only help him or her to make sense of the world that he lives in, but should also open up possibilities for exploration and expansion on the part of the child's life.²³

Thirdly, education should prepare the child for a life of service to humanity. Montessori sees education as a tool for the development of world peace. This broadly stated belief rested on two basic components. First that education develops an inter-cultural understanding among students. She believed that the child's adaptation to one's own time, place and culture involves the capacity to meet new situations and to have the intelligence and courage to transform them when change is needed.²⁴ Secondly, that it nurtures within the children the desire to grow up and become 'stewards' of their environment. She believed that children are inherently good and are the major hope for a better and more peaceful world.²⁵ Her education embodies the concept that respect for the child will teach the child to be respectful in the world at large. As the scripture says; "train up a child in the way he should go, and when he is old, he will not depart from it."²⁶ This reiterates the believe that learners who are allowed to be creative, free,

²¹ Robin Ann Martin, "Philosophically based alternative in education, in *Encounter*, vol.17, no1, 2004, p.22

²² Maria Montessori, *The Absorbent Mind*, New York: Holt, Reinhart and Winston, 1971, p.281

²³ Corinne Margueritte Massey, *Cultural Relevance and Montessori*, master's thesis submitted to the Faculty of the Graduate school of the University of Maryland, master of Arts, Department of Curriculum and Instruction, 2006, p.27

²⁴ Lillard Paula, *Montessori Today: A Comprehensive Approach to Education from Birth to Adulthood*, New York, Schochen Books, 1996.

²⁵ Mark Powell, "Social and emotional learning in Montessori education" in *Montessori LIFE*, Vol.13, issue 1, 2001, p.32-34

²⁶ New King James Version Bible, Proverbs chapter 22, verse 16.

independent will evolve into creative adults who would ensure a society devoid of wars, with abundance kindness and peace. According to Covington Packard,

*a child gains self-confidence as he feels able to participate usefully in the society around him..., in practical work, self-discipline and competences are gradually developed. They come as the child and adult live in mutual respect... The efforts to respond to ones needs, to the environmental needs and to the needs of others, as must as competence allows, brings a kind of self-discipline that is known as responsibility. From this kind of discipline, comes a sense of true liberty.*²⁷

The classroom should be based on cooperation, caring, communication and appreciation of diversity, appropriate expression of feelings, and responsible decision making for the betterment of the individual and society at large. Through cross cultural education, people are harmoniously living because they are taught to embrace multiculturalism. According to UNESCO; “since wars begin in the minds of men, it is in the minds of men that the defense of peace must be constructed.”²⁸ No doubt Montessori believed that “preventing conflicts is the work of politics; establishing peace is the work of education.”²⁹ Montessori believed that if mankind was going to create a new order of society with morality and social values rather than conquest power and profit at its cores, then adults including educators should have faith in the fresh vitality and vision of the child as a messiah.³⁰

2.2. The four planes of development as windows of opportunity

The four planes of development entail Montessori’s overall view of the development of the individual from birth right through maturity. This vision of the development provides a holistic view of developing human beings³¹ and it explains and justifies the importance of education as a “help of life.” To this effect, Montessori wrote;

*according to modern psychologists who have followed children from birth to university, there are in the course of their development different and distinct periods, corresponding curiously to different phases in the development of the physical body. The changes are so great that certain psychologists, exaggerating in the attempt to render them clear, have expressed themselves thus: “Growth is a succession of birth.” It seems as if, at a certain period of life, one psychic individual cease and another is born.*³²

²⁷ Covington Packard, *The Hidden Hinge*, Notre Dame: Fides Publishing Inc, 1972, p.60-61

²⁸ UNESCO, *Learning the Way of Peace: A Teacher’s Guide to Peace Education*, India: New Delhi, 2001.

²⁹ Maria Montessori, *From Childhood to Adolescence*, New York, Schoken, 1948, p.24

³⁰ “Montessori Method of Education Essay”, July 2007, Retrieved from <http://phdessay.com/montessori-method-of-education-essay>, February 4 2020.

³¹ Montessori’s view of human development is holistic in two senses; firstly Montessori considers all aspects of development (physical, intellectual, emotional). Secondly, Montessori considers all the phases of developing life.

³² Maria Montessori, *Education for a New World*, Adyar, Madras, India: Kalashretra Publications, 1946, p.17

She discovered to this effect that the true function of childhood in the development of the human being is that the child passes through certain phases, each of which has its own particular needs.³³ With respect to this, Montessori takes into account the social, cognitive, moral and biological changes of the individual. Understanding the characteristics and needs of the child at each stage allows the adult to support the natural unfolding of life. This explains the reason why Montessori saw these planes of development as windows of opportunity for developing human potentialities in education. The child becomes an active agent and the adult a support.

These stages are grouped into six-year cycles, which include; infancy or early childhood (from birth to the age six), childhood (from the ages six to twelve), adolescence (from the ages twelve to eighteen) and early adulthood or maturity (from eighteen to twenty-four). According to her, each of these planes starts afresh, bringing up new set of characteristics, needs and behaviors. As one plane reaches its peak, it makes way for the beginning of the transition to a new stage. Montessori called this “the constructive rhythm of life.”³⁴ These planes will be succinctly explained below.

The first plane of development known as the stage of infancy stretches from birth to the age of six. This plane is divided into two sub planes (from birth to three) and (from three to six). Here, Montessori refers to the child at the sub plane of birth to three as the “unconscious creator”. This is because during this important period, the child is not conscious of learning but is able to create a person she is to become. She remembers a little at this time but what happens during these early years eventually becomes part of her forever. During the first three years of this six year period, the mind operates unconsciously. The child simply takes in the environment with an absorbent but unconscious mind. Montessori explained this in the following words:

an unconscious mind does not mean an inferior mind. You will find this type of intelligence everywhere at work in nature. Every insect has it for instance; but theirs is not a conscious intelligence, even though sometimes it appears to be so.... In those first few months of the child's life, before he is able to move, he takes in the whole of his environment by means of the absorbent power of the unconscious mind. The child seems to take in these things, not with his mind but with his life. The absorbent mind works rapidly, taking in everything without effort and without conscious, will ... it begins deep down in the darkness of the

³³ Maria Montessori, *The Four Planes of Education*, edited by Mario Montessori, Association Montessori International, USA, 1971, p.1

³⁴ Ibid.

*subconscious mind; it is developed and “fixed” there; and finally emerges into consciousness, where it remains a fixed and permanent procession.*³⁵

With the developed skills learned during this period, the child continues his/her development in a more conscious effort through the conscious period (from three to six years). The faculties such as memory, thinking, writing, and other processes, are now available for expansion. The first plane can be viewed as the period when the human individual develops and perfects new functions. By the time the child is six, she/he has been transformed from a rather unconscious, immobile creature into a new psychic individual. This process is described by Montessori as “revelation of the child”.³⁶

At this stage, Montessori says it’s a not a question of development but the creation from nothing.³⁷ She went on by noting that; “psychologists who have observed children from their first year have announced the discovery that it is in this period that the construction, the building up of man takes place.”³⁸ As the child reaches three and above, Montessori called him the “conscious worker”. This is because at this stage, the child begins to put to use the abilities he has been constructing unconsciously. His hand is the instrument of his mind.

As the first plane draws to its close, we see the child who is confident, capable and independent.³⁹ Here, the child strives for functional independence where he or she can affirm “help me to do it by myself.” She termed it the most important period of life as she affirmed that the most important period of life is not the age of university studies, but the first one, the period from birth to the age of six. For that is the time when man’s intelligence itself, his greatest implement is being formed, but not only his intelligence, the full totality of his psychic powers.⁴⁰ For this reason, there is need to think of the skills the child can acquire at this stage so as to make it fulfilled. The child in this case will learn in accordance to natural drives and responses.⁴¹ Intelligence is greatly formed as the child is always anxious to learn.

The second plane of development known as the stage of childhood stretches from the ages six to twelve. Here, there is a great deal of intellectual work that takes place in the

³⁵Emily Standing, *Maria Montessori, Her Life and Work*, New York: American Library, 1957,

³⁶ *ibid*

³⁷ Maria Montessori, *Education for a new world*, op. cit, p.16

³⁸ *Ibid.*

³⁹ Maria Montessori, *The Four Planes of Education*, edited by Mario Montessori, Association Montessori International, USA, 1971.

⁴⁰ Maria Montessori, *The Absorbent Mind*, New York: Holt, Reinhart and Winston, 1971, p.22

⁴¹ *Ibid.*, p. 23

individual. During this period, the child shows great stability as physical and psychic growth continues along the same line. There is very little transformation or metamorphosis during the second stage. Montessori believes much mental work can be accomplished, (i.e., storing a great deal of cultural information). Mentally, a great development of reasoning abilities is also taking place. Socially, the child develops an individual ego strength as well as group consciousness (i.e., the gang stage or herd instinct). Also, a great interest in fairness and right versus wrong will surface in the mind of the child.

The child always wants to know the reason behind things. It does not imply that the child is now intelligent enough to learn everything rather, the child's mind is now something that the adult can understand, approach and influence. The absorbent mind gradually changes to the "reasoning mind". There will be the desire to explore and understand things for himself not just accepting facts as facts. He wants to use his own rationale, his own judgment and make his own decisions.⁴² The mind here wants to understand how all the components in the world work together. Montessori used the phrase "the acquisition of culture" but she was not referring to 'arts'. The child here is introduced to human culture, the whole of the universe including sciences, history, music, mathematics and all other things that tie to human culture. This is because she believed that when ideas about the universe will be introduced at this stage, the child's interest, admiration and wonder would cause him want to learn more. Montessori called her plan for this stage "cosmic education." This is the period when the child's mind is like a fertile field, ready to receive what will germinate into culture.⁴³ At this stage, the child moves towards intellectual independence as he can affirm "help me to think for myself." Montessori described this stage as the calm stage of uniform growth. In other words, she described it as a period marked by serenity and docility.⁴⁴

The third plane of development known as the stage of adolescence stretches from the ages twelve to eighteen. It is during this stage that puberty leads to a change from childhood to adulthood. It brings another rebirth which is that of a social man, with a psychological change from the child in the family to the adult in the society. There is a great deal of change experienced in the life of the individual during this period that affects his learning patterns. According to Montessori, new psychological characteristics emerge in the mind of the individual such as doubts, hesitations, violent emotions, discouragement, and an unexpected

⁴² The four planes of development, May 2017. Retrieved from <https://phdessay.com>, February 8 2020.

⁴³ Maria Montessori, *To Educate the Human Potential*, Adyar, Madras, India: Kalashetra Publications, 1961, p.5

⁴⁴ Maria Montessori, *Education for a new world*, 1946, p. 18

decrease in intellectual capacity. During this period there is also a tendency toward creative work and a need for the strengthening of self-confidence.

Current brain research shows that certain areas of the brain grow and change during adolescence for instance, the prefrontal cortex located behind the forehead and controls planning, working memory, organization and modulating mood.⁴⁵ These changes affect the way teens deal with social issues as well as perform academically. Montessori also noticed that during this stage, adolescents become unstable, experience violent emotions, doubts and hesitations as well as become sensitive to criticisms, ridicule and humiliation.⁴⁶

This means that at the time when we will expect increase in responsibility, capability, academic performance and independence, the adolescent appears to instead regress. This is explained as Montessori wrote; “during the third period, the character is not steady; there is often indiscipline and some sort of rebellion...”⁴⁷ For this reason, Montessori thinks that to be able to aid the adolescent at this stage to succeed in education, there should be a social and economic preparation for life in a safe and protected environment. She believed that if young people at a certain point are called upon to take an active part in the life of humanity, they must first feel that they have a great mission to accomplish and prepare themselves for it.⁴⁸ At this plane, the adolescent moves towards social/emotional independence where one can affirm “help me to find myself”. The young person realizes that he can do adult work as he can succeed in life his own efforts and on his own merits, and at the same time it would put him in direct contact with the supreme reality of social life.⁴⁹

The fourth plane of development known as that of maturity and continues from the ages eighteen to twenty-four. At this point in time, the society considers the individual as an adult. Here, there is the development and consolidation of the creations formed in adolescence. The adolescent is now a “formed person.”⁵⁰ Here, the success of an individual depends on how he or she develops her potential in the earlier stages of life. If the preceding levels of independence have been realized, the adult would be able to make her own ‘choice of action’ while being aware of the possibilities and responsibilities. The young adult strives for economic

⁴⁵ Dr. Jay Gield, Frontline, “*Inside the Teenage Brain*”, 2002. In a ‘frontline’ interview, he said, if a teen is doing music or sports or academics, those are the cells and connections that will be hardwired.

⁴⁶ Maria Montessori, *From Childhood to Adolescence*, Oxford, England: Clio press, 1999, p.63

⁴⁷ Maria Montessori, *Education for a New World*, Adyar, Madras, India: Kalashretra Publications, 1946, p.18

⁴⁸ Maria Montessori, *Education and Peace*, Oxford: Clio Press, 1992, p.70

⁴⁹ Maria Montessori, *From Childhood to Adolescence*, op. cit, p. 64

⁵⁰ Ibid, p.90

independence where he can affirm; “help me to support myself.” To this effect, Montessori writes as follows; “culture and education have no bounds or limit; now man is in a phase in which he must decide for himself how far he can proceed in the culture that belongs to the whole of humanity.”⁵¹ For this reason, Montessori shows that if man understands his mission, and knowingly and wisely he will discover that he can be able to change his life at this stage and experience joy. Montessori shows that we cannot change the world by working with adults, but that we must start from childhood. It explains the reason why she emphasized on the idea of stages of development as windows of opportunity in education. She concluded this by affirming that;

*we must take man himself, take him with patience and confidence, across all the planes of education. We must put everything before him, the school, culture, religion, the world itself. We must help him to develop within himself that which will make him capable of understanding. It is not merely words; it is a labor of education. This will be a preparation for peace, for peace cannot exist without justice and without men endowed with a strong with a strong conscience and personality.*⁵²

She further noted that learners in her own point of view displayed sensitivity towards learning particular concepts during all these planes of development. Her instructional method and teaching materials evolved as a result of meeting the needs of her students.

2.4. The prepared environment and knowledge acquisition

In order for children to realize their potentials in education, Montessori stated that they needed a suitable learning environment. With this in mind, she advocated for an educational learning environment that will meet the needs, interest, abilities and development of the learners. This prepared environment as Montessori puts it is usually designed to facilitate and maximize the child’s independent learning and exploration by offering tools and activities that meet each child’s developmental needs and interests. She emphasized on the structuring of the environment because she believed that it will allow the natural manifestations of the innate tendencies in the child.⁵³ According to Montessori, the first aim of the learning environment is, as far as possible to render the growing child independent of the adult.⁵⁴ With this every child is made aware of the fact that he or she can carry his study far beyond the reach of the teacher’s

⁵¹ Maria Montessori, *The Four Planes of Education*, op.cit, p.14

⁵² Ibid, p.15-16

⁵³Oremeyi S. Okuo, “Montessori Education and The Prepared Environment” in *International Journal of Innovative Research and Studies*, vol 3, issue 7, 2014, p.652

⁵⁴ Maria Montessori, *The secret of Childhood*, Hyderabad, India: Orient Longman Private Limited, 2003,

own knowledge, given the right ‘ecology of resources’ in a well prepared environment. Montessori made this important discovery as she affirmed;

Scientific observation, then, has established that education is not what the teacher gives; education is a natural process spontaneously carried out by the human individual, and acquired not by listening to words but by experiences upon the environment. The task of the teacher becomes that of preparing a series of motives of cultural activity, spread over a specially prepared environment, and then refraining from obtrusive interference. Human teachers can only help the great work that is being done, as servants help the master. Doing so, they will be witnesses to the unfolding of the human soul and to the rising of a New Man who will not be the victim of events, but will have the clarity of vision to direct and shape the future human society.⁵⁵

If the child’s experiences in the environment are so significant as Montessori affirms, it becomes essential that we also understand not only the development of our learners but the nature of the environment in which they learn. This is because what the learners find around them will greatly influence their learning patterns. Everything the learner comes in contact with in this type of environment should support his or her desire to learn. In order to support the spontaneous development, learners should be allowed the freedom to experience the world their own way, to explore and to assimilate the world and all its principles. The Montessori environment is headed by knowledgeable educators that help to facilitate the learning process. Adults must construct a bridge between their world and that of the child. This bridge should be provided through the prepared environment. The prepared environment should bring the world at large, and thus the adult world within the reach of the child at whatever stage of development it is, at a given moment.⁵⁶ In her book concerning the secret of childhood, she outlined the following as key components of a prepared environment.

Firstly, freedom of choice which is achieved through the learner’s exploration, movement and social interaction with peers. Montessori believed that each learner must be free to explore and follow his or her own natural impulses. Freedom of movement, exploration and choice of activity is of importance to Montessori. This allows the child to not only express their innate desire to learn, but also develop a level of self-confidence and self-efficacy in understanding the learning material. Freedom of choice improves the process of knowing thinking, learning and judging. This is evident as she affirmed; “the environment must meet

⁵⁵ Maria Montessori, *Education for a New World*, op.cit, p.3-4

⁵⁶ Montessori Mario, *Education for Human Development: Understanding Montessori*, New York, Schocken Books, 1976, p.20

the demand for the fundamental principle of scientific pedagogy... the liberty of the pupil for such liberty shall permit the development of individual spontaneous manifestations of the child's nature."⁵⁷ Having a sense of control over one's environment and what one does has been shown to benefit the performance of learners. Montessori went further to affirm that; "these children have free choice all day long. Life is based on choice, so they learn to make their own decisions. They must decide and choose for themselves all the time...They cannot learn through obedience to the commands of another"⁵⁸With sole freedom, the class will be chaotic and disorderly, that is the reason why there is always an adult mentor who observes and corrects the learner where need arises. Although children freely choose what to do in the classroom as Montessori claims, there are several limits on these choices. The teacher or facilitator will in this light keep a close watch and correct the learners where ever needed. This helps to improve the process of knowing, thinking, learning and judging skills in the learners.

Secondly, the structure and order as well as the beauty of the environment also play a primordial role. It is very important to keep the environment clean, neat and inviting for learning. This will make the learners to concentrate on what they are learning. Children are attracted to the beauty of the environment and learn to protect and restore that beauty as part of their daily routines. Montessori saw that beautiful surroundings did not distract the learners but instead promotes concentration of thought and offers refreshment to the tired spirit. Order ignites a sense of reason and as such, there should be a place for everything. Montessori supported this by affirming that obstacles must be reduced to a minimum and surroundings should provide the necessary means for the exercise of those activities that will to develop the child's energies. A beautifully structured classroom will evoke peace and tranquility and thus entice the learners to work. It must be attractive aesthetically and practically.

The prepared environment should stimulate the interest of the learners in the kind of activities they need to foster their development. It also provides care and respect for the environment during the process of learning. This is confirmed as she wrote; "the things in his environment seem to awake in the child an intense interest, an enthusiasm that penetrates into his very life."⁵⁹ The learners should be taught how to take care of their learning environment. All children should feel that they are in control of this aspect of their environment and that they are

⁵⁷ Maria Montessori, *The Montessori Method. Scientific pedagogy as applied to child education in "the children's houses"* trans. A. E. George, London: William Heinemann, 1912, p.28

⁵⁸ *ibid*

⁵⁹ Maria Montessori, *Education for a new world*, op. cit, p.20

competent to manipulate materials that are, in most classrooms, too bulky or heavy for them to handle.⁶⁰ The ability to contribute towards the care of the environment is seen as one of the contributing factors to freedom with responsibility and the creation of a cohesive social environment. The environmental organization is also of capital importance to guide the learners through the five areas of the Montessori curriculum (practical life, sensorial, language, mathematics and cultural subjects). Sensorial materials should be hierarchically introduced from simple to complex, and from concrete abstract. This will accord the learners freedom to fully develop intellectually with correspondence to the prepared environment.⁶¹

Thirdly, nature and reality should be considered in the learning environment. Montessori, having had a deep respect for nature believed that nature should be employed to inspire learners at all levels. She believed that nature should always be used as reference to inspire children to learn. The recognition of real and natural things is very important because it is the visual of the object that he or she will use in constructing his or her present and future understanding so that it is very influential for the child's life.⁶² Teachers should as such cultivate the habit of taking their students out into nature to explore the best teaching supports rather than leaving them to be confined within the walls of the classroom. This works more specifically when it has to do with subjects that study nature and the environmental issues. Nature encourages hands-on and visual aid to learning about the world. Students will often take field trips which help them have a true learning experience about what they are being taught in theory.

More so, the social environment is also very important when considering the prepared environment. When the prepared environment encourages freedom and interaction, children learn to develop a sense of empathy and compassion for others, as such enhancing social development. Social interaction in learning activities would support children's social and emotional development to become caring children and prepare them for the world of work, and to play in a group. The social environment could be implemented by creating mixed-age classes so that children could interact with their younger siblings or older siblings, and their peers.

⁶⁰ Lowell Krogh Suzanne, "Affective and social development: some ideas from Montessori's prepared environment", in *Topics in Early Childhood Special Education*, vol.2, issue 1, 1982, p. 55-62.

⁶¹ Michelle Irinyi, "The Six Principles of the Montessori Prepared Environment Explained", march 2009. Retrieved from <https://montessoritraining.blogspot.com> February 10 2020.

⁶² Sekar Astuti, "Prepared Environment as the Key Success Factor in Building Clean and Healthy Habit in Early Childhood Education" in *Journal of Advances in Social Science, Education and Humanities Research*, volume 540, Atlantis press, 2020, p.124

Therefore, the children can work collaboratively, interact with peers, and find their place in the social community.⁶³ Multi-age classroom settings promote and encourage social interaction.

In addition, the Intellectual environment should also be considered. An intellectual environment can be defined as an educational environment that is prepared to develop the child's individual not only intelligence.⁶⁴ This environment is realized by guiding children to learn the five Montessori areas, namely sensorial, practical life, mathematics, language, and culture. It aims to prepare children for the next level of education which requires basic concepts that students have to understand. A foundation must be strong so that the learners will be able to understand concepts progressively as they go up the educational ladder. As such, basic concepts must be developed properly at the kindergarten level so that later learners do not experience difficulties in understanding the material in primary, secondary and advanced, and even universities. The influence of the prepared environment in the Montessori setting is what allows for children to take pride in their discoveries and forms the foundation for a lifetime love of learning.

2.4. Freedom and Discipline

Montessori thought that the fundamental problem of education which is that of character formation was being neglected to some extent. It was through her idea of freedom and discipline that she meant to meet the crying educational need of the time; that of character formation. She went on to affirm that;

It has been established that moral education means only the development of character, and that faults can be made to disappear without the need of preaching, punishment or even setting a good example by the adult. Neither threats nor promises are needed, but conditions of life.⁶⁵

She views discipline as a force within the child. It comes from within the child; it is not imposed externally.⁶⁶ When adults force the child to be silent or obedient, the child is passive and the adult's will dominates the child and this is not how Montessori sees discipline. She says "What is generally known as discipline in traditional schools is not activity, but immobility and silence. It is not discipline, but something which festers inside a child, arousing his rebellious

⁶³ Ilaria Navara, "Benefits and Challenges of Mixed-age Classrooms for Small Schools: the Montessori Approach to Early Childhood Education", in *The Journal Scuola Democratica*, vol. 1, 2019, p. 334-338.

⁶⁴ Maria Montessori, *The Absorbent Mind*, New York: Holt, Reinhart and Winston, 1971.

⁶⁵ Maria Montessori, *Education for a new world*, op.cit, p.93

⁶⁶ Maria. Montessori, *The Montessori Method*, op.cit, p. 95

feelings.”⁶⁷ Discipline comes when the learner is active and willingly chooses the right path. By this, a person is disciplined only when he is the master of himself, and is able to control himself when he needs to.⁶⁸ Looking at discipline as an active force coming from within the child presents a very different relationship between discipline and education from the traditional one of dominance and coercion.⁶⁹ Education should not teach the child how to be passive and submissive, education must help the child to become active. Albert Joosten, a trainer who worked with Maria and Mario Montessori, writes,

*The task of the adult then, is not to inject or teach discipline, but to offer the child suitable forms by means of which he can individually and socially follow and express the dictates of his inner discipline. This help must take very concrete forms. It requires not only ever increased efforts at self-discipline and respect for the inner discipline of the child, but also the preparation and organization of an environment where the child can, and is helped to, obey his inner discipline. It should be help offered, not violation inflicted.*⁷⁰

Here, Montessori considers freedom as ability, an ability or capacity that is independent of external coercion. She goes on to tell us that “Real freedom is a consequence of development; it is the development of latent [dormant] guides, aided by education. Development is active. It is the construction of the personality, reached by effort and one’s own experiences.”⁷¹ According to her, the teacher has to study his learners as individuals and must also give them the type of help that will make it possible for them to achieve satisfaction of their own individual aims and desires.⁷² She discovered that discipline comes from work as she affirmed;

*The first dawning of real discipline comes from work. At a given moment, it happens that the child becomes keenly interested in a piece of work, showing it by the expression in his face, and by his intense attention, by his perseverance in the same exercise. That child has set foot on the road leading to discipline.*⁷³

⁶⁷ Maria Montessori, *Creative Development in the Child. The Montessori Approach*, vol. 1, Kalashetra Press, 1994, p.41.

⁶⁸ Maria Montessori, *Basic Ideas of Montessori’s Educational Theory: Extracts from Maria Montessori’s Writings and Teachings*, originally compiled by Paul Oswald and Gunter Schulz, Oxford, Clio Press, 1997

⁶⁹ Maria Montessori, On Discipline: Reflections and Advice, first appeared in *The Call of Education*, vol.1, 1924, p.16-23

⁷⁰ Albert Joosten, *Education as a Help to Life*, edited by Rajendra Gupta, Montessori Research and Development Center, 1994, p.58

⁷¹ Maria Montessori, *The Absorbent Mind*, *op.cit*, p.205

⁷² Maria Montessori, *The Montessori Method Scientific pedagogy as applied to child education in “the children’s houses”* trans. A. E. George, London: William Heinemann, 1912, p.88

⁷³ *Ibid.*, p.92

According to this view, discipline is within, and obtained through freedom and concentration. So Montessori saw that the problem was solved as she wrote "...to obtain discipline, give freedom. It is not necessary for the adult to be a guide or mentor in conduct, but to give the child opportunities to work that have been hitherto denied."⁷⁴ The more the capacity to concentrate is developed, the more often the profound tranquility and concentration in work is achieved by the learner, the manifestation of discipline is seen.⁷⁵ In opposition to conventional education where discipline is imposed through stillness and immobility, the Montessori approach promotes 'active discipline'.⁷⁶ Discipline can only arise through the activity of the individual by carrying out purposeful work in an environment that gives them a sense of freedom and discipline all together.

Seen in this light, freedom and discipline both are active processes that are developed through the child's own activity and effort. This is very different from the idea of freedom as letting children do whatever they want. Montessori writes in the *Absorbent Mind* that, "If freedom is understood as letting the children do as they like, using, or more likely, misusing the things available, it is clear that only their "deviations" are free to develop"⁷⁷ This is why in many traditional classrooms when teachers give the learners freedom, as they think they are supposed to, and "follow the child;" they see only chaos. When Montessori demands that the child be given freedom, she is sometimes misunderstood.⁷⁸ Rather than being opposites, freedom and discipline are very much alike. They are both internal states and processes developing within the human being. They are both considered a capacity. They are both related to choice; self-discipline is choosing to be in control of myself, and freedom is making a choice to act in a certain way. Freedom and discipline are hallmarks of a true Montessori class because the learning environment is prepared to support the child's development and growth in such a way that he can successfully use freedom because he has self-discipline.

Montessori describes freedom and discipline as two factors that refer to the internal capabilities that human beings have to make choices and to have self-control over their behavior. Education must not teach the child how to be passive and submissive, it must help the child to become active. Montessori believes nature endows the learner with freedom and

⁷⁴ Maria Montessori, *Education for a new world*, Adyar, Madras, India: Kalashretra Publications, 1946, p.94

⁷⁵ Maria Montessori, *The Child in the Family*, Oxford, England: Clio Press, 1989, p.38

⁷⁶ Active discipline is doing what is appropriate at a given moment. Montessori was of the view that this type of discipline is less of a fact and more of a way. It is cultivated alongside inner growth and awareness

⁷⁷ Ibid.

⁷⁸ Albert Joosten, *Education as a Help to Life*, op.cit, p.18-19

independence but however it is necessary for the individual to be able to control himself so that those internal needs do not exceed the limits that would cause him harm or those around him. It is in this light that discipline is necessary in the construction of man. Montessori expressed some few conditions necessary for discipline to be effective.

In the first place, she talked of obedience as a driving force for discipline, that discipline would be impossible if not for the instinct of obedience in the child. Obedience is an instinct which must be cultivated through the gentle training of the will. According to her, the will like every other function, is strengthened and developed by methodical exercises. Such exercises are present in the intellectual exercises carried out in the classroom and in the everyday life of the learner. Outwardly the child is learning accuracy and grace of movement as well as learning to count and write, but as a more deep-seated result, he is becoming a master of himself, the forerunner of the man of strong and ready will.⁷⁹ According to Montessori, obedience is a developmental process that is improved upon with practice. Self-discipline is all about exerting control over one's behavior especially when faced with a problem or temptation. As learners grow up, they realize the importance and value of doing what they are being asked to do, thereby maintaining discipline. It is for this reason that she viewed obedience in different level. At the first level, children are capable of obeying especially when the task is in line with what he or she wants to do. However, there are times when are simply unable to listen to instructions. This level is typically observed in children under three years, but older one's can also exhibit this level of obedience. At the second level, self-discipline appears and children begin to learn how to take responsibility for their actions. However, obedience during this level is called "blind Obedience". This means that it is dependent upon adults and other authorities and not the child's own will alone. At the third level, the learner will not only complete what is asked of him or her but also understand the value of doing so. This is the highest level of obedience and is call "joyful obedience".

Montessori goes further to encourage teachers to give their learners freedom, but freedom within boundaries. This explain why she affirmed that; "in order that individual action should be free and useful at the same time, it must be restricted within certain limits and rules that give the necessary guidance."⁸⁰ In a prepared environment, independence and order are key characteristics that facilitate the child's constructive choices and sense of control. There

⁷⁹ Maria Montessori, *The Discovery of the Child*, op. cit., p. 383

⁸⁰ Maria Montessori, *From Childhood to Adolescence*, New York, schoken, 1948, p.113

exists a number of limits that were highlighted by Montessori as factors that can promote discipline. Some of these limits include the following;

The learner's freedom is necessarily limited by the collective interest of other learners and adults in the environment. She wrote; "the liberty of the child should have as its limit the collective interest; as its form, what we universally consider good breeding. We must therefore, check in the child whatever offends or annoys others, or whatever tends toward rough or ill-bred acts. But all the rest - every manifestation having a useful scope - whatever it be, and under whatever form it expresses itself, must be permitted."⁸¹ The adult in this sense sets the 'tone' of the environment and creates through example an atmosphere of acceptance, love and belief in the good within every child as well as within the social community. She wrote that; "if the child is to take in customs and habits, he must be constantly among people who themselves follow them."⁸² This shows why the adult must always be observant and ready to intervene only when need be. In this way, he or she will be promoting self-control, self-regulation, order, ability to concentrate and above all self-discipline and esteem.

The order in which the learners choose the learning materials is also another limit to freedom that can foster discipline. He or she can only work with a piece of material whose purpose is well understood. A Montessori classroom offers numerous opportunities for the child to develop his will and therefore facilitate the emergence of discipline. The learner should be guided to choose materials that correspond to his skill level at the time. Montessori emphasized this by affirming that; work cannot be presented in an arbitrary manner, and this is what lies behind our method.⁸³ Montessori insists on the need for teachers to be trained on how to present and materials used for used for a particular lesson to their students.

Moreover, according to Montessori, rewards and punishments are an assault to learners' freedom. This is because it shifts their focus such that instead of engaging in an activity because they are interested in learning about it, they do it because they have been conditioned to anticipate a reward or are scared of a punishment. Rewards and punishments therefore have no place in the Montessori classroom because for her it is important for learners to work from their own self-motivation.

⁸¹ Maria Montessori, *The Montessori Method Scientific pedagogy as applied to child education in "the children's houses"* op.cit, p.87

⁸² Maria Montessori, *The Absorbent Mind*, op.cit p. 86

⁸³ Maria Montessori, *The Discovery of the child*, op.cit, p.326

She warns teachers that “the need to compel is always a proof of pedagogical error”.⁸⁴ Learning should be satisfactory enough to be its own reward. Burrhus Frederic Skinner supports this when he says, a school system must be called a failure if it cannot induce students to learn except by threatening them for not learning. This proves that Montessori principles imply that the motivational system of traditional education with its emphasis upon grades and other external rewards and punishments is psychologically unsound and should be replaced by the intrinsic rewards of competence, self-confidence and love of learning.

2.5. The Role of the teacher in the educational process

The teacher as Montessori puts it is a crucial element in education whose role cannot be minimized. Seguin’s dictum “Respect for individuality is the first test of a teacher”⁸⁵ was an essential influence on Montessori’s approach to the role of the teacher in the educational process. According to Montessori, the teacher has the role of preparing the appropriate learning environment, to set the child free while limiting interference and also to monitor the progress made by each of his learners within the learning environment. She affirmed as follow:

*The first step to take in order to become a Montessori teacher is to shed omnipotence and to become a joyous observer. If the teacher can really enter into the joy of seeing things being born and growing under his eyes, and can clothe himself in the garment of humility, many delights are reserved for him that are denied those who assume infallibility and authority in front of a class.*⁸⁶

From this, we see that the teacher needs to be a good observer who after observing guides the learners to be able to achieve their aims. He needs to always set the class on an ongoing evaluation.

The teacher must have faith in his learners and be able to free herself from all preconceived ideas concerning the nature and level of the learners.⁸⁷ “the many different types of children...must not worry her... The teacher must believe that the child before her will show her true nature when she finds a piece of work that attracts her...”⁸⁸ This means that the teacher

⁸⁴ Montessori Mario and Claremont Claude, “Montessori and the Deeper Freedom,” in *NAMTA Journal*, vol.23, issue 2, 1998, p.70

⁸⁵ Edouard Seguin, *Idiocy and Its Treatment by the Physiological Method*. New York, W. Wood and Co., 1866, p.33

⁸⁶ Maria Montessori, *From Childhood to Adolescence*, New York, schoken, 1948, p. 122

⁸⁷ Maria Montessori, *Absorbent Mind*, New York: Holt, Reinhart and Winston, 1971, p.276

⁸⁸ *Ibid.*

must develop trust in his or her learners' developmental abilities. With careful observation and planning, a teacher according to Montessori remains constantly alert to the direction each learner is heading and therefore actively works to help them succeed.⁸⁹

Montessori was of the view that the teacher should focus on the specificity of his or her learners rather than on strictly structured lesson plans. Although the teacher should always plan his or her daily lesson, he must always be alert to the changes in the learner's interest, progress, mood and behavior towards learning. To this effect, she offered general principles that can guide the behavior of the teachers;

The teacher becomes the keeper and custodian of the environment. She attends to this instead of being distracted by the children's restlessness...All the apparatus is to be kept meticulously in order, beautiful and shining, in perfect condition...This means that the teacher also must be...tidy, calm and dignified..., the teacher's first duty is therefore to watch over the environment and this takes precedence over all the rest. Its influence is indirect but unless it is well done, there will be no effective and permanent results of any kind, physical, intellectual or spiritual.⁹⁰

Under the guidance of such a teacher, the learner will develop both as a person and intellectually reach full potential so as to be the man of the future. This is because rather than supplying answers to problems posed during a lesson, the teacher ask his learners how they can solve these problems, actively engaging them in the learning process and enhancing critical thinking skills.

To sum up, this chapter had as main focus the educational views of Montessori in relation to its ultimate goal as a means of the development of human potentialities. We have seen the various goals of education which foster the development of human potentialities, the role of freedom and discipline in this process, the four planes of development as well as the role of the environment in knowledge acquisition. We have understood that Montessori's progressivist view of education challenges the traditionally held view on the idea of knowledge transmission which focuses more on the acquisition of grades. Following the favorable conditions outlined above, we can be able to achieve the ultimate aim of education as postulated by Montessori, that of nurturing and developing human potentialities.

⁸⁹ "The Montessori Teacher and her Role: Learning more about the Method", 2007, Retrieved from <https://www.montessoritraining.blogspot.com>, 08 April 2023.

⁹⁰ Maria Montessori, *Absorbent Mind*, op.cit, p.277-278

PART TWO

AN APPRAISAL OF MONTESSORI'S CONCEPTION OF EDUCATION

This part is divided into two chapters and will consist of the judgment or assessment of the value of Montessori's idea of education as the development of human potentialities. Chapter three shall focus on a critical evaluation of Montessori's conception of education and the development of human potentialities where we shall focus on some of the limitations to her thoughts. Chapter four shall focus on the views of other educational philosophers that are related to or are contrary to those of Maria Montessori's conception of education and the development of human potentialities.

CHAPTER THREE

A CRITICAL EVALUATION OF MONTESSORI'S EDUCATIONAL VIEWS

This chapter will have as preoccupation an attempt to bring out the various limitations or shortcomings embedded in Montessori's educational views. By so doing, we shall aim at highlighting some of the limitations to Montessori's conceptions and a critical analysis of their usefulness in enhancing the educational process. We shall examine the place of memorization in education by showing that despite Montessori's rejection of it, its role in education cannot be minimized. We shall equally make a critical evaluation of Montessori's ideas of freedom and discipline in education, her idea of the non-intervention of the adult, the use of didactic materials in the classroom, the role of the teacher, the independence of learners as well as William Kilpatrick's criticism of the Montessori method.

3.1. The role of memorization in education

Memorization refers to the ability to exercise repeated rehearsal of verbal material. While noting the fact that creative learning as advocated for by Montessori is very important in education, it is worth pointing out that memorization can still play an important role. Memorization has been proven to be important to the brain as much as exercise is important to the body.⁹¹ Experiments show that learners over estimate how much they remember. Information can be memorized in many different ways and using specific techniques such mnemonics, rote learning and visualization among others. Some benefits of memorization can be stated below;

Firstly, it trains the brain to remember because it exercises and gives more strength to retain a greater amount of information. It is an effective way that can be used by learners to make their brains more receptive to remembering. Although memorizing lines of poetry may not feel particularly essential, it's an important task for training your brain to remember things. Research says that this type of memorization exercises our brains and gives it strength to retain more information.⁹² According to Montessori, memorization in the teaching/learning process should be abolished because it does not enhance the cognitive growth of the learners. This cannot be true because to be able to evaluate whether or not the lesson was understood, the teacher evaluates the learner's ability to reproduce what he taught. According to Boyle memorization is; "the first step in a life-long enterprise of seeking understanding and thus

⁹¹ Dr. Emamul Hogue, "Memorization: A proven method of learning", in *International Journal of Applied Research*, vol 22, 2018, p.142-150

⁹² Dr. Enamul Hoque, "Memorization: A Proven Method of Learning" op.cit, p.142

knowledge.”⁹³ He goes further to state that within the context of learning and understanding the Koran, memorization plays a primordial role which cannot be minimized. He asserts this as he affirms;

*[the] creed ought to be taught to a boy in the earliest childhood, so that he may hold it absolutely in memory. Therefore, the meaning of it will keep gradually unfolding itself to him, point by point, as he grows older. So, first, is the committing to memory, then understanding, then belief and certainty and acceptance.*⁹⁴

It would rather be difficult to encourage independent thinking in the learners especially at an early age. Being able to remember the material taught is as such a great way of training one’s brain to remember things and retain more information.

According to Montessori, the traditional model of education which encourages memorization pushes learners to study only for the sake of acquiring grades rather than on building individual potentials and problem solving skills. She undermines the fact that during the teaching/learning transaction, students are supposed to recite all that the teacher presents to them.⁹⁵ Though Montessori is against this method, one can say that it is through memorizing that the mind can store information which can be used throughout the learning process. The mind is able to store precise definition, principles and mathematical formulae like in science of which they cannot do without. Memorization provides exercise for the mind. This is the reason schools used to require students to memorize poems, Bible verses and famous speeches among others. The true advantage of such exercise is that generates mental industriousness.

Also, memorization helps students to practice focus. Studies have shown that in order for one to retain information, he or she needs to be focused and pay attention. As students spend time memorizing passages, poems and texts, they learn to find focus in what they do.⁹⁶ Educators have found that students who were required to memorize from an early age often go on to have more capacity to focus on educational tasks as they further their education. Even though Montessori thinks that promoting this will hamper creativity and allowing learners discover things by themselves, should we allow a child in the kindergarten for example to think

⁹³Boyle Helen, Modernization of education and Kuranic adaptations in Morroco, In H. Daun & G. Walford (Eds). *Educational strategies among Muslims in the context of globalization: some national case studies*. Leiden: BRILL, 2004, p.152

⁹⁴ Ibid. p.125

⁹⁵ John Dewey, *Democracy and Education, An Introduction to Philosophy of education*, The Free Press, Paris, PUF, 1989, p.168

⁹⁶ Dr. Emamul Hogue, “Memorization: A proven method of learning”, in *International Journal of Applied Research* 2018, vol 22, p.142-150

on its own? This becomes problematic because Montessori says early childhood education is the foundation for a better adulthood. But can it be possible to teach nursery school kids or junior primary school without memorization? Take for instance, if children at the kindergarten or nursery school recite and memorize things like poems, songs, letters of the alphabet and mathematical symbols or signs when they are still young, will it not contribute greatly to their learning when they go higher? Montessori failed to understand that at this stage, the child is not yet mentally stable enough to learn through abstract concepts and complex materials in the name of self-discovery. According to Ngalim Valentine, poems and songs carry a baggage of moral lessons.⁹⁷ They provide a way for the child to understand the material and social environment. It builds the foundation for higher learning.

Memorization paves the way to understanding and subsequently higher cognitive skills such as problem solving.⁹⁸ This is supported by Rudolf Steiner who believes that:

...The development of the etheric body depends on habit and remembrances. For this reason, you should try to give children a firm foundation for life anchored in good habits. People who act differently every day, who lack a stable basis for their deeds, will later lack character. The task to fulfill between the ages of seven and fourteen is to create basic art of habit and to stimulate memory development. Children need to learn upright habits and to have a rich store of memorized knowledge.⁹⁹

Throwing more light on the above, it is erroneous to believe that young children should learn to decide for themselves. It has been generally noticed that nursery school children often believe so much in what their teachers tell them than their parents at home. So I believe that children below the age of fourteen should not be forced into critical thinking as it is disadvantageous for them. They can hardly decide for themselves and it is very bad of a child cannot look up to anyone.¹⁰⁰ Montessori fails to understand that we cannot expect a premature child to develop reasoning abilities independently without having to pass through the process of memorization. Memorization is important for creativity as students who learn to focus and develop their working memory through memorization tasks can free their mind to become more creative. We are not suggesting that education should be based solely on memorization but a

⁹⁷ Valentine B. Ngalim, *Critical Thinking in Education: An Introduction to Philosophy of Education in the African Context*, PEP, Bamenda 2014, p.42

⁹⁸ John Santrock, *Educational Psychology*, 2nd ed. New Delhi: Tata McGraw, HILL; 2006, p.251

⁹⁹ Rudolf Steiner, *The Education of the Child*, Anthroposophic Press, Hudson, New York, 1996, p.45

¹⁰⁰ Rudolf Steiner, *The Education of the Child*, op.cit, p. 46

good teacher is he who uses a variety of teaching methods which enables the students to produce the best learning outcomes.

Also, memorization is beneficial for the accuracy of knowledge because it may help to consolidate knowledge and deepen understanding of it. Nation stated that;

Repetition is essential for vocabulary learning because there is so much to know about each word meaning with it is not sufficient to gain this information and because vocabulary items must not only be known, they must be known well so that they can be fluently accessed. Repetition thus adds to the quality and strength of knowledge.¹⁰¹

In today's schools, children are being asked to critically think without looking at the foundation of knowledge. What would they be critically thinking about without memorizing anything? Thinking and understanding do not occur if one doesn't remember anything. As William Klemm, a specialist and professor in neuroscience declares; "what good is learning if we can't remember it?"¹⁰² For this reason, information that is first memorized is the foundation for training the brain to think well and in a logical manner. Having to store information is a preparation for higher order thinking skills for the learners thus information that is first memorized is the foundation for training the brain to think well and in a logical manner. Memorization and accumulation in the long term memory of relevant information leads to the ability to compare ideas, solve problems, critically think, ask questions, find insights and inspire creativity.¹⁰³

Memorization helps to exercise the learner's brain. The brain is essentially like a muscle and it gets exercised each time we put efforts in memorizing new facts. When we do not regularly challenge our minds, its ability turns to diminish. For example, the constant recitation of the multiplication timetable may not help learners to understand mathematical concepts but it may allow them to draw from what they have memorized in arithmetic. Through memorization, it is possible to build an organized system of knowledge in the long-term memory. It frees the mind to be able to make connections between what is already in their

¹⁰¹Ian Stephen Nation, *Learning Vocabulary in another Language*, Cambridge University Press, 2001, p.74

¹⁰²William Klemm, *Memorization is not a Dirty Word*, 2013 retrieved from [www.psychologytoday.com/intl/blog/march 19 2023](http://www.psychologytoday.com/intl/blog/march-19-2023).

¹⁰³ Memorization, why it is important and how it is mentally liberating, Retrieved from <https://www.jusclassical.com> March 04 2023.

memories and new ideas that are presented. It is an aid to the learner to make things more accessible for the learner.¹⁰⁴

Moreover, from a neurological point of view, memorization develops the brain in a way nothing else can.¹⁰⁵ Davelaar and Abelmann are also of the view that “it has become clear that the human memory is associative and that the relations between neurons and their mutual connections by synapses are very important in memorization.”¹⁰⁶ In a bid to further establish the neurological benefits of memorization, Pudewa maintains that neurons make connections through frequency, intensity and duration of stimulation¹⁰⁷ He further maintains that through memorizing, all these three variables become involved and as such, the network of neural connections which build the foundation of intelligence is strengthened. He concludes that the strengthening of this network of neural connection, metaphorically, leads to the existence of more accessibility of information in the processing unit of our brains so memorization is a useful strong tool for managing storage. Not only is organized memorization important for neurological growth, it also builds a mental discipline which will carry over into other academic areas.¹⁰⁸ As educators have known for centuries, memorization exercises deliver unique cognitive benefits.

3.2. Criticisms of Montessori’s freedom and discipline: the need for an externally imposed discipline

In all institutions of learning, discipline is very important and plays a vital role in effective management. Discipline exposes students to the art of self-control and social chaos can only be avoided if restraints are built into the character of students.¹⁰⁹ Discipline is not just a moral value but it is the most powerful virtue that is necessary to be successful in life. One cannot achieve the goals of life without being disciplined. However, discipline is not learned in a day. It takes years to acquire this trait and the best time to learn discipline is right from childhood. That is why schools play a crucial role in imparting discipline and creating well-balanced individuals. Discipline is a way in which we align our body, mind and our soul to

¹⁰⁴ Sivell John N, “Habitual memorization by literature students: A help as well as a hindrance” in *ELT Journal*, Vol. 35, 1980, p.52

¹⁰⁵ Alieh Nasrollahi, “Memorization makes progress” in *Theory and Practice in Language Studies*, Vol. 5, No. 4, p. 870-874, 2015, p.871

¹⁰⁶ Yingxu Wang, Dong Liu, Ying Wang, “Discovering the capacity of human memory” in *Brain and Mind*. 4 (2) p.189–198, 2003, p.190

¹⁰⁷ Pudewa Andrew, *Linguistic development through poetry memorization: A Mastery learning approach*, CA: Institute for Excellence in Writing, Inc, 2005, p.3

¹⁰⁸ Ibid. p.4

¹⁰⁹ Were N, *Discipline, Guidance and Counseling in Schools*, Nairobi, Nehema Publishers, 2006, p.42

follow a proper order.¹¹⁰ A person who is disciplined performs everything in the right manner and is able to achieve great heights in life both personally and professionally. Thus, it is essential to impose and practice discipline within the school milieu so as to train learners to become responsible in the future. According to Montessori, discipline can be seen as a force that exists within the child and comes from within the child and not externally imposed.¹¹¹ With this, can we say that according to Montessori a student should be left to act as he/she pleases? If this be the case, there will definitely be chaos because when left to act as one pleases, what is often seen is deviant behavior which hampers progress within the educational framework.

According to some scholars, discipline is the pillar for a success of a school in academic and extra-curricular activities.¹¹² For this reason, the importance of good discipline in schools cannot be overemphasized. It is very necessary that rules be set which place limits to all learner's freedom and make them aware of the conditions required for success. There should be specific rules or code of conduct in each educational setting which clearly sets out the consequences of disobeying such. This will help to set the learners on the right track as the fear of being punished when they go contrary to the rules and regulations of the institution push them to maintain discipline. It develops the students into strong individuals. Discipline is a way to set limits for the children so that they know what is right and what is wrong. This improves the character of the students and they become strong as well as self-reliant. Discipline even develops the analytical skills of the students. So, when they grow up, they can exploit their skills to solve real-life challenges. While coercion, compulsion and punishment evidently find no place in Montessori's educational setting, Montessori's failure to acknowledge that external discipline is sometimes beneficial for the betterment of an existing situation is seen to be inauthentic. Smith argues that firm but not severe correction, including encouragement of a desired behavior, applied immediately and consistently is usually efficacious in most cases.¹¹³ This shows that Montessori's idea that discipline comes from the child's freedom and that it should not be externally imposed is not ideal.

Also, there is need to implement disciplinary action within the school system. Montessori fails to understand that the absence of external discipline in the classroom will inhibit the learners from concentrating and nothing will be taken seriously by them as far as

¹¹⁰ Aliya Khatun, "The role of discipline in education and its impact on the processing of learning", in *JETIR*, volume 5, issue 10, 2018, p.91

¹¹¹ Maria Montessori, *The Montessori Method*, p.95

¹¹² David Mbiti, *foundation of school administration*, Nairobi, Oxford University Press, 1974.

¹¹³ Keneth Edelson and Orem, *The Children's House parent/teacher guide to Montessori*, New York, Capricorn books, 1970, p. 39-40.

academics is concerned.¹¹⁴ According to Fontana, it does not matter whether one is dealing with young or more mature learners, straight forward rules of classroom management are of great importance if good classroom control is to be maintained.¹¹⁵ Researchers like Potgieter, Visser, Van der Bank, Mothata and Squelch stated that “if discipline is not taken into consideration, the school environment will be dangerous and the educational process may be disrupted.”¹¹⁶ This may consequently affect the attainment of educational goals. In addition to the obvious impact on the teaching and learning environment, disruptive behavior within the school can also affect the learners’ safety, readiness to learn as well as future behavior. It is therefore necessary that external discipline be maintained in a school for the welfare and safety of learners and educators, as well as for the success of the educational process. It is evident that Unless there is an adequate response to the inappropriate behavior on the part of learners in the classroom, teachers will be unable to present their lessons effectively. The success of effective teaching in the classroom is usually dependent on two major factors, mostly centered around the problems of learning and that of order. The assumption here is that classroom order encourages learner engagement in the lesson thereby making it successful. In the absence of order, teachers find it difficult to promote learning. Classroom discipline is therefore, necessary in creating order and encouraging learning. This can be supported by the common saying which runs; “spare the rod and spoil the child”. Setting rules and regulations will help the learners to have a clear understanding of what is expected of them as well as the consequences of their behavior that would be desirable or undesirable.¹¹⁷

According to Paulo Friere, the teacher can at times pass instructions to the learners and establish limits without which the very freedom of learners is lost in lawlessness.¹¹⁸ This shows that the teacher/educator plays a vital role in maintaining discipline rather than allowing all the freedom to the learners as Montessori advocates. This is evident as Varma states that, “beyond their responsibility for teaching, educators are also responsible for the moral development of learners and to ensure that they become law-abiding citizens.”¹¹⁹ This implies that within the school community, teachers are expected to respond in controlling their learner’s violations of

¹¹⁴Cahn Steven, *The Philosophical Foundations of Education*, Harper and Row Publishers, New York, 1990, p.217

¹¹⁵ David Fontana, *Managing classroom behavior*, New York: Routledge, Chapman and Hall, 1994, p.122

¹¹⁶ Potgieter, Visser, Van der Bank, Mothata and Squelch, *Understanding the South African School’s Act. What public school governors need to know*, Pretoria, Department of Education, 1997, p.59

¹¹⁷Potgieter, Visser, Van der Bank, Mothata and Squelch, *Understanding the South African School’s Act. What public school governors need to know, op.cit.*

¹¹⁸Paulo Friere, *Pedagogy of Freedom: Ethics, Democracy and Civic Courage*, Rowman Littlefields Publisher, USA, 1998, p.63

¹¹⁹ Ved P. Varma, *Management of Behaviour in Schools*, London Routledge, 1st ed, 1993, p.31

the institutional rules (including state rules) and of the school. Each teacher should have a mastery of the needs of his/her learners and also be able to detect when and how correction and modification of behavior is needed within the classroom.

Moreover, according to modern educational thinking, discipline should be both internal and external so as to develop the physical, mental, social and ethical values in the learners. For John Dewey, the meaning of discipline is to prepare children for life in democratic society, to provide help to man in achieving knowledge, strength, habits, interest and ideas envisaged for the up gradation of self, his companies and whole of the society.¹²⁰ Relying on the internal motivation of learners for discipline cannot yield satisfactory results. There is need to employ other disciplinary actions such as counseling and behavior control through punitive measures as well as suspension and expulsion. Some educators have observed that we can rely more on counseling than other punitive measures to maintain discipline in schools. Since indiscipline is mostly related to the character of the learner, it is essential to locate and understand the possible causes of learner's behavior because it may be in this direction the problem lies. Counseling should as such be used a compliment to the internally driven force which is responsible for discipline in learners.

Behavior control on its part involves the rewarding of learners for behaviors which are acceptable and correcting that which is unacceptable is very vital to maintain discipline. According to Piper, when a student behaves, he or her behavior is followed by one of the following four basic categories of consequences; when a reward is introduced (positive reinforcement), when punishment is introduced (punishment), when a reward is removed (extinction or time out), or when punishment is removed (negative reinforcement). Montessori chooses to abide by the theory that all punishment is negative. Also, according to Smith, recent experimental studies reveal that even mild punishment can be effective if correctly administered, especially if all other alternatives have not resulted in a constructive outcome.¹²¹ A positive reinforcement can be in the form of a verbal praise, a good grade or a feeling of increased accomplishment or satisfaction. In students, positive reinforcement causes the reinforced behavior to increase in frequency. Negative reinforcement involves the method of strengthening a behavior by following it with the removal of an unpleasant stimulus. In the classroom, negative behavior might be seen in a student's refusal to do assignments, to obey

¹²⁰Essay on Discipline, Definition, Concept, Components and Principles, retrieved from www.yourarticlelibrary.com April 08 2020.

¹²¹Keneth Edelson and Reginald Orem, *The Children's House parent/teacher guide to Montessori*, New York, Capricorn books, 1970, p.4

rules set by the teacher. Such a behavior can be weakened by ignoring it unless need arises to use a negative reinforcement strategy to correct it. Whereas reinforcement strengthens behavior, punishment weakens it and reduces the chance that the behavior would occur again. Teachers are also encouraged to act as models for their students to follow since they easily capture and hold the attention of their students. That is by practicing good behaviors and encouraging all to copy same.

In addition, In the modern world there are so many things within the school milieu that can lure students away from their main objectives as learners. Discipline means a way of being hardworking, honest, strictly following rules and regulations, social norms as well as values. Discipline makes students deal well with things and be organized and responsible citizens in the future. Students must adopt the disciplinary aspects of every performance that makes them successful all the time. Here is how discipline plays a significant role in the life of students.

Much misunderstanding of the Montessori system according to Bailey comes from the interpretation of the word freedom as meaning lawlessness. For this term to be used in this light, it means Montessori would grant each child his birthright of freedom; physical, moral and mental. According to her, freeing the child does not entail this entirely. According to her, every child is born with an unlimited capacity for good. His impulse is to do the good thing, but we so limit him about with objects which he must not touch and places he must not explore.¹²²

3.3. A critical evaluation of Montessori's views regarding the non-intervention of the adult

Freedom of action as Montessori views it is facilitated by the absence of interference of learner's activities by the adult. By identifying freedom with noninterference, she in authentically assumes the child to be free because he is self-sufficient and therefore claims that he does not need the help of the adult educator in his journey to adulthood, which in effect negates the authority of the educator.¹²³ Based on the preceding statement, it can also be argued that non-interference implies non-disciplining in order to promote self-discovery.¹²⁴ On the one hand the adult or educator, (who is supposed to be the bearer of authority) takes on the role of observer as Montessori puts it in the place of educator or guide. This lack of recognition of the

¹²² Bailey Sherwin Carolyn, *Montessori Children*, New York, Henry Holt and Company, 1915, p.45

¹²³ Maria Montessori, *Education for a new world*, op.cit, p. 88.

¹²⁴ Martin Clive James, *The feasibility of Montessorian education in the primary school: an historico-educational exposition*, Doctorate thesis, University of South Africa, Pretoria, November 1994, p.110

adult or educator has direct relevance to later years when the child is involved in more formal education and finds it hard to accept the authority of the adult or educator in the learning process which affects his or her progress negatively. On the other hand, it could be stipulated that Montessori lacks clarity in her definition of non-interference and that this lack of understanding was found to exist in the educational practice of her seeing teachers as being only observers in the educational process.¹²⁵

According to Boyd freedom for Montessori means the absence of interference with the process of growth which is simple to discuss in the abstract but in the concrete, it means permitting the child to do that which he wants. This kind of freedom or liberty he says is not possible in schools as he declares;

For practical purposes, therefore, she has to find a position midway between the absolute freedom required by her theory of individuality and the renunciations and restraints which in her view' are characteristic of the social relationships; and she does so by tacitly abandoning the non-social kind of freedom and substituting for it a modified form of social freedom. Her first attempt at the definition of this latter kind of freedom is made by stipulating that the child shall be allowed, and even encouraged, to act without the least restriction, so long as his actions do not interfere with the like freedom on the part of others.¹²⁶

Montessori believes in restraining a child engaged in a rough or ill-bred act, continues Boyd, but by what right has she to impose any limits of any kind on freedom, if restraint is to crush out innate tendencies? What criterion is to be used in determining whether those actions are good or bad? ask Boyd.

Boyd argues that guidance and prohibition play as large a part in the Montessori system as in any other system¹²⁷, but because it is carefully concealed from the learners, Montessori attempts to negate its influence. The suppressing of any spontaneous activity surely implies both discipline and intervention in the child's natural actions which is in contradiction to her definition of freedom. It is therefore very difficult to form firm definite conclusions as to what Montessori actually had in mind with regard to her idea of non-intervention, for one is constantly confronted with ambiguities. Montessori herself declares that “once a direction is given to them (regarding their work), then the child's movements are geared towards a definite

¹²⁵ *ibid*

¹²⁶ William Boyd, *From Locke to Montessori*, Fascimile Publisher, 1917, p. 214

¹²⁷ *Ibid.* p.222

end, so that he himself grows quiet and contented ...”¹²⁸ The means of applying direction is in itself pedagogic assistance, which Montessori very often states is not to be given.

From this, it is important to understand that if interference by the educator helps assists with the progress of the child then this intervention should be seen as valuable and beneficial to the child. The educator is to be seen as the bearer of authority and should allow the child to reach out towards responsible freedom. In this light the concept “authority” is not linked to coercion or compulsion, but rather to responsible guidance as a necessary support to enable the child to choose and make responsible choices, develop responsibility towards freedom and prevent the child from misusing the freedom granted to him. As affirmed by Boyd, freedom does not possibly suggest the absence of guidance or prohibition. Du Plooy confirms Boyd's viewpoint by arguing that if the learner refuses to act according to certain principles, consciously or unconsciously performing or intending to perform a wrong or dangerous act, the educator has to intervene to prevent the educative purpose from being defeated.¹²⁹ Furthermore, the security of knowing that there is a supportive adult present in the learning environment whose aim is to protect, comfort and guide, forms a firm frame of reference for the child in his formative years.

Montessori's overemphasis on freedom, presents a problematic situation to modern day educators who are against the idea of giving complete freedom to their learners as advocated by Montessori. This is because of their fear of the level of disorder that non-interference would bring especially with the nature of the modern day educational setup.

3.4. A critical analysis of Montessori's idea of the use of didactic materials in the classroom

According to Reginald Orem a contemporary disciple of Montessori, the Montessori didactic materials as a systematic array of objects resembling learning games, each of which is carefully designed to attract the spontaneous attention of the learner and teach a particular educational skill.¹³⁰ According to Montessori, these didactic materials are to be used for the training of the senses of each learner within the classroom. Montessori explains what these didactic materials represent within the learning process. She affirms that; “Our sensory material, in fact, analyses and represents the attributes of things: dimensions, forms, colors

¹²⁸ Maria Montessori, *Dr. Montessori's own handbook*, U.S.A: Robert Bentley, 1964, p. 21.

¹²⁹ Du Plooy, Griessel and Oberholzer, *Fundamental Pedagogics for advanced students*, Pretoria: Haum, 1987, p.103

¹³⁰Reginald Orem, *Montessori: Her method and the movement; what you need to know*, G.P Putnam's sons, 1974, p.28-29

smoothness or roughness of surface, weight, temperature flavor, noise, sounds. It is the qualities of the objects, not the objects themselves, which are important.”¹³¹ These materials proceed on different levels. In the first place it advances from the concrete to the abstract, from the simple to the complex, as the child moves within the environment and within particular sensitive periods.¹³² A major concern that is posed on Montessori’s idea of didactic materials is that it overemphasizes individuality and learner’s independence in using them. This therefore provides little or no scope for social interaction since each learner is involved with his own materials with little or no possibility of associating with his fellow classmates. The restrictive nature of these didactic materials presents a problematic situation which leads to criticisms.

According to John Dewey, the value Montessori gives to the learners in relation to the use of didactic materials is questionable. His first critique of Montessori’s educational idea was on the emphasis she places on the materials she uses to train the senses of her learners. Here, John Dewey questioned the role of these materials and their relationship to real world circumstances or situations. According to him, the way the didactic materials are used in Montessori classrooms reflects an outdated 19th century conception of intelligence and learning. He interprets Montessori’s insistence that her objects should be used by the children in a particular and precise way as the realization of a 19th century belief in human ability as being innate rather than developed. This implies in other words that “children have ready-made faculties which can be trained and developed for general purposes, regardless of whether the acts by which they are exercised have any meaning other than the training they afford...”¹³³ This is to show that learners in the Montessori setting did not have as much intellectual or creative freedom as they had with movement and choice. This is because of the restrictions placed on the didactic materials Montessori talks about. This aspect of John Dewey’s evaluation that was further elaborated by Kilpatrick contributed to the loss of interest in the Montessori Method in USA after the Second World War.

Dewey was also against the fact that Montessori emphasized on the individual’s use of didactic materials at the expense of shared experiences. According to him, this led to lack of peer interaction (social interaction) which is a very important aspect which contributes to the success of the learning process. Social interaction according to Dewey is needed in order to

¹³¹Maria Montessori, *Spontaneous activity in education*, New York: Schocken Books, 1965, p. 203

¹³²Martin Clive James, *The feasibility of Montessorian education in the primary school: an historico-educational exposition*, Doctorat thesis, November 1994, p.196

¹³³John Dewey and Evelyn Dewey, *Schools of Tomorrow*, Kessinger Publishing LLC, 1915, p.159

improve the society in which every learner finds himself.¹³⁴ To him, the classroom materials should be applicable to the circumstances the learner would find outside the classroom and the classroom should foster the social interaction the learner needs in order to get along in the world outside the classroom.¹³⁵ Since Dewey believed in the direct training of the senses for real world problem, he affirmed that; “the material should not be limited to training the discriminations and comparisons of a single sense.”¹³⁶ He noted that the use of each material during the learning process should depend on the age of the learner one is involved with. Fynne argues that Montessorian didactic materials provides too little scope for those intelligent children who desire to explore and who seek to discover the hidden possibilities of properly exploring the didactic materials, but are prohibited from doing so because the apparatus may only be used in one way.

3.5. A critical evaluation of Montessori's views regarding the role of the teacher

It is worthy of note that the Montessori teacher is in direct contrast to the view of a modern day teacher. This is because of the fact that there is a major difference in the involvement of the teacher in the educational process. Traditionally the role of the teacher was that of “the dispenser of knowledge” but in Montessori’s own view point, the teacher's role is limited to observation after having carefully structured the learning environment rather than teaching and taking charge of his class, the modern teacher is more actively involved with his or her learners. The consequence of Montessori pushing the teacher to the background has tended to become a problematic issue in recent debates on the role of the teacher. Montessori neglected the role of the teacher as a higher and indispensable authority in the teaching-learning process and instead ascribed a more passive role to the teacher or educator. With regard to involvement, Boyd argues that Montessori perhaps underrates the part played by the teacher or educator as a role model in the educational process. This is because she overlooks the fact that the teacher sets the example for the children to follow.

Montessori's idea that children does need adults to be a mentor or an example for them to follow is frightening if one considers the absolute confidence and trust that learners, especially younger one’s places in their teacher as someone to whom he or she can turn to for

¹³⁴Ibid.

¹³⁵Stacey kay, *characterizing the conversation: A historical review of Maria Montessori’s visits to the United States, 1913-1918*, Blacksburg, Virginia, 1997, p.44

¹³⁶John Dewey, *Middle works of John Dewey, vol.8, 1899-1924, essays and miscellany in the 1915 period and German Philosophy and Politics and schools of Tomorrow*, edited by Jo Ann Boydston, London, Southern Illinois University press, 2008, p.308

help and guidance. There is need for the teacher to retain his position of authority in education. The severity of the nature of this concept is further complicated by Montessori's insistence on the fact that the teacher must withdraw into the background and be careful not to interfere in any way nor must the teacher show the child how to get over difficulties. Such advice promotes a breach in the educational relationship of trust knowing there is need for an assumption of authority by the teacher. The example he sets through word and deed will convince the learners of the fact that he also subscribes to and realizes that the norms and conventions that he strives to transmit to them are authentic.¹³⁷ The educator must be someone whom the child can look up to with trust and respect. With this in mind, it could be argued that Montessori's view of the teacher's role is an inauthentic one since she does not see the need for interaction between the learner and the educator.

Also, the role of the teacher according to the modern day educator Duminy is that of a competent person who performs the educative act of teaching.¹³⁸ Here, the teacher assists the learner to obtain a perspective on reality and himself. He fundamentally unfolds laws, norms and principles that pertain to the success of the teaching-learning process to the child. He is professionally and didactically trained to execute the task of leading the child to a responsible adulthood. He is both a transmitter of knowledge and a moral mentor to his or her learners.

Moreover, the Montessorian idea that the teacher should be "young and charmingly attractive" can be seen as a limitation. Even though it could be understood from the point of view that Montessori was not specifically referring to physical characteristics, but rather personality traits that would be appealing to the learners, a further look at it proves that is a strong contradiction to modern day views. Du Plooy poses the same question asked by Montessori, "How does the 'ideal' teacher look like?" and then provides a suggested answer. The answer reflects all the characteristics of a moral mentor rather than physical characteristics such as depicted by Montessori.¹³⁹ These characteristics as identified by Du Plooy, are listed as follows: A teacher should be someone possessing a strong, pleasant and dynamic personality, an exemplary and incorrigible conduct in life, honesty, responsibility, respect for authority, forgiveness, trustworthiness, sobriety, unselfishness and devotion, absolute

¹³⁷Du Plooy, Griessel and Oberholzer, *Fundamental Pedagogics for advanced students*, Pretoria: Haum, 1987, op.cit, p.182

¹³⁸Pieter Duminy and Sohng, *Didactics: Theory and practice*, Cape Town: Longman, 1980, p.7-8

¹³⁹Du Plooy, Griessel and Oberholzer, *Fundamental Pedagogics for advanced students*, op.cit, p.171

candidness, willingness to sacrifice, accuracy, punctuality, diligence and industry, perseverance, soundness and particularly empathy.¹⁴⁰

According to John Dewey, for learners to become good future citizens, they need a more teacher oriented training than that advocated for by Montessori. As a result of this, he criticized the role Montessori ascribed to the teacher in the educational process. Dewey places a more directive role on the teacher's participation in the classroom. He affirmed to this effect that it is the job of the teacher "to train the special impulses of actions to be developed through their use of preserving and protecting life in the social and physical conditions under which it goes."¹⁴¹ For him, education needed to emerge from the practice in everyday life situations. Growth according to him was the exchange between what the child brought to experience and what experience offered the child. Montessori's view on the role of the teacher differed as the teacher was only to interfere when the child needed a new lesson or was in a harmful situation.

The unconventional attitude of the teacher's role and appearance as held by Montessori can therefore be considered as one with lots of flaws and as such unacceptable. Her presumption that naturally learners can be molded right from infancy to responsible adulthood with little visible guidance on the part of the teacher should be considered as impractical and as such not meriting any further discussions.

3.6. Criticisms of Montessori's view on the independence of learners

Current educational thought which requires that educators take the nature and ability of each individual child into consideration, suggests that every type of situation will call for a different type of assistance in accompanying the child towards independence. According to this point of view, there is no fixed formula or method that can be prescribed for a situation that may occur due to the individual capabilities of each child's differing capabilities.¹⁴² It is essential though, that whatever help the teacher gives, should be of the right kind. In order to give the right kind of assistance it is required of the educator to obtain a definite and firm knowledge of the mind and character of the individual learner. Montessori's insistence on the independence of learners emphasized the child working by himself which in itself is not inauthentic, but is not necessary for educational progress to be affective. Promoting independence especially at an early stage in the educational ladder is at the cost of social

¹⁴⁰Du Plooy, Griessel and Oberholzer, *Fundamental Pedagogics for advanced students*, op.cit, p.172

¹⁴¹John Dewey and Evelyn Dewey, *Schools of Tomorrow*, Kessinger Publishing LLC, 1915.

¹⁴²This has to do with Montessori's idea of non-intervention and her trust in the freedom she ascribes to all learners.

togetherness as such should be regarded to be inauthentic. The importance of social interaction togetherness in the educational milieu is strongly emphasized by Duminy and Sohngé as they write;

Independent education [as an isolated approach] is also undesirable for certain pedagogic and didactical reasons. Where individual education is given to one pupil he misses precisely that stimulation which he would receive from being in the same learning situation as his contemporaries. Lack of the motivation which is inherent in the learning situation with classmates results in less creative work.¹⁴³

Duminy further contends that the individually taught learners make slower social progress than the pupil receiving education as a group.

Montessori's idea of independence is in contrast with modern views of education that prefer to think that independence is rather gained from the adult or educator, assisting his learners in varying degrees as situations may require. According to Gunter, when the learner is still a child, he or she cannot be granted the kind of independence Montessori advocates for. He supports this claim by affirming that; "in his being a child he is still very dependent and destitute, he is eager to be assisted and to be accompanied because he can, and wants to become more independent, skilled, competent, experienced disciplined and responsible."¹⁴⁴ Identifying independence with total freedom and non-intervention from the adult or educator is not a good model to be followed. Absolute non-intervention according to Du Plooy, displays a poor attitude as regards the educator proving his or herself to be a disinterested person not worthy of the name educator.¹⁴⁵ The child is therefore dependent on the teacher or educator's assistance in gaining his independence. This independence only comes at a later stage in the educational ladder (it gradually starts the third plane of development upwards).

It can be further argued that, contrary to the Montessorian theory that necessary educational interventions assist the learners progressively into responsible adulthood and independence and thereby directs him or her towards establishing a place for himself in life. The individual child will obviously reach the stage when he is no longer dependent on his parents or his teachers for his existence but will be self-reliant, only then can we ascribe full independence to him. Montessori's premise that assistance is to some degree useless and forms an impediment to natural strength therefore becomes irrelevant and shows Montessori to be

¹⁴³ Pieter Duminy and W.F. Sohngé, *Didactics: Theory and practice*, Cape Town: Longman, 1980, p.27-28.

¹⁴⁴ Van Rensburg and Landman, *Notes of Fundamental Pedagogic concepts*, fifth edition, Goodwood: N.G. Kerkboekhandel, 1988, p. 334.

¹⁴⁵ Du Plooy, Griessel and Oberholzer, *Fundamental Pedagogics for advanced students*, *op.cit*, p. 124.

pedagogically narrow-minded. Montessori might be right when she says that unnecessary and ill-timed intervention could be harmful to an otherwise healthy and constructive program of self-development. However, while it is widely accepted that self-correction and self-evaluation are sound principles in the educational process, the decisions that the learner needs to make often require adult endorsement to motivate the he or she to proceed with the productive activity.

3.7. William Kilpatrick's criticism of the Montessori Method

According to Kilpatrick, Montessori's educational generalizations are unscientific and her knowledge of education is highly limited. He strongly criticizes her concept of Education as the development of what is already within each child, her lack of group work (discouraging social interaction within the learning environment.) as she emphasizes on individual learning, the role she assigns to the teacher as well as her idea on the use of didactic materials. He finds Montessori's claims about children's success in mastering practical life activities to be exaggerated. Kilpatrick affirmed in his book that

It must be said however that while Madam Montessori's interest in the scientific attitude is entirely praiseworthy, her actual science cannot be so highly commended. Her biology is not always above reproach.... She generalizes unscientifically as to the condition of contemporary educational thought and practice from Observation limited as it would seem to Italian schools. If she had known more of what was being thought and done elsewhere, her discussions would have been saved some blemishes and her system some serious omissions.¹⁴⁶

Kilpatrick concluded that Montessori's educational theory was a mid-nineteenth century piece that was fifty years behind the times and much inferior to John Dewey's philosophy of education.¹⁴⁷

To begin with, Kilpatrick rejects Montessori's interpretation of the doctrine of education as the development and unfolding of that which is already present within each learner from birth, that is her emphasis on learner's individuality as inadequate and misleading. According to Kilpatrick, "such a doctrine of education has borne good fruit; but there is danger in it. It has led in the past to unwise emphasis and to wrong practice. We have already seen that it carries with it a depreciation of the value rightly belonging to the solutions that man has devised for

¹⁴⁶ William Kilpatrick, *The Montessori System Examined*, Houghton Mifflin Company, Boston, 1914, p.4

¹⁴⁷ Ibid.

his ever-recurring problems.”¹⁴⁸ In the same line of thought, Kilpatrick went forth to affirm that;

*If the development be but the unfolding of what was from the first enfolded, then the adaptation is made of the situation and consequently without reference to its novel aspects... Within man, however, each generation finds and makes a new situation. If education is to prepare for such a changing environment, its fundamental concept must take essential cognizance of that fact.*¹⁴⁹

This shows that Montessori’s idea that education involves the development and unfolding of what is already within each learner is inadequate and misleading. She limits the process of development in education to what has been implicitly present in the learner from the time he or she was born, thereby neglecting new aspects that one can acquire from the society in which he or she finds himself. A learner’s future life and destiny cannot be limited uniquely to that which was present in his nature from birth.

Moreover, Kilpatrick is uncomfortable with Montessori’s doctrine of freedom, thinking Rousseau, Froebel, and Dewey should be credited with this general point of view, especially Dewey.¹⁵⁰ However, it is interesting from a Montessorian perspective to note that while Kilpatrick wants these educational philosophers to be credited with the idea of the “learner’s freedom” at the same time he is uncomfortable with the amount of freedom the children have in a Montessori educational setting. He understands Montessori’s deep level of respect for the child and the need to permit the free and natural manifestations of the child, but he does not understand that for Montessori the recommendation to permit the learner’s freedom comes from her study of children, based on what she describes as biological and scientific observations of their behavior.¹⁵¹ Montessori affirmed that children learn self-discipline and self-control through their work. She was of the view that they can develop a strong ability to concentrate their minds and control their bodies if given the chance to do so. This kind of discipline as Montessori puts it is based on the interest and the uninterrupted time the learner put in when being assigned to work. Montessori learned that by allowing children to choose what they are interested in as an activity, the children will take care of their needs for independence and self-control, as well as order and silence, and will learn how to monitor their

¹⁴⁸ William Kilpatrick, *The Montessori System Examined*, op.cit, p.9

¹⁴⁹ Ibid., p.10

¹⁵⁰ Barbara Thayer-Bacon, “Maria Montessori, John Dewey, and William H. Kilpatrick” in *Journal of Education and Culture*, vol. 28, issue 1, 2012, p.12

¹⁵¹ Idem

own behavior through what she labeled as their “work.”¹⁵² She called the children’s activities “work” so that adults would take the children’s activities seriously and not consider what the children did as “just play” that could be interrupted whenever adults wanted. From this, Kilpatrick points out that this Montessori’s idea of allowing the learners long periods of time for uninterrupted work can lead to chaos and disorder thereby interrupting the learning process.

In addition, Kilpatrick is not only uncomfortable with the amount of freedom the learners have in a Montessori school, but he is also uncomfortable with the role of the teacher. Montessori teachers do not involve themselves in interrupting the activities of their when their time to do so hasn’t arrived. In place of the old time teacher, Montessori says, we have substituted the didactic material, which contains within itself the control of error and which makes auto-education possible to each child. Kilpatrick wants a teacher who is clearly the center and arbiter of the activity within the classroom to be at placed in front of the learners so as to be able to see every learner and assess their progress. For him, keeping the teacher only in the background can lead to the wrong use of materials and even acquisition of skills that are not useful for the lesson. He affirms that the idea of auto-education¹⁵³ is more of a wish than a fact.¹⁵⁴The Montessori teacher is usually at the side or one corner of the class observing the learners and working with a single child or small groups only when the need arises. In summary, Kilpatrick held that;

It is evident from the foregoing that, after all has been said, the Montessori curriculum affords very inadequate expression to a large portion of child nature. Such a limitation of opportunity is in effect nothing less than repression, a repression destructive alike of happiness and mental growth. Moreover, since expression is the means to the acquisition of the culture of the race, the deficiency in expression is serious, whether it be looked at from the point of View of the child and his present happiness and growth, or from the point of view of culture and of the child’s preparation for participation therein. From every consideration, the proposed curriculum proves inadequate and unduly restrictive.¹⁵⁵

This shows that the Montessori Method of education and curriculum design as Kilpatrick holds does not fully cover the learner’s nature in relation to what is being taught. This led to limitation in exploiting the abilities of each learner, most especially mental growth. That is the reason why Kilpatrick concludes that the Montessori curriculum is inadequate and restrictive.

¹⁵²Barbara Thayer-Bacon, “Maria Montessori, John Dewey, and William H. Kilpatrick” in *Journal of Education and Culture*, vol. 28, issue 1, 2012, p.13

¹⁵³ For Montessori, auto-education refers to the human ability to self-construct knowledge in the brain without extensions or guidance.

¹⁵⁴William Kilpatrick, *The Montessori System Examined*, op.cit, p.34

¹⁵⁵ Ibid., p.30

In a nutshell, while attempting to make a critical evaluation of Montessori's educational views in this chapter, we have seen some limitations to Montessori's her conception of education and the development of human potentialities, ranging from the role of memorization in education, the need for an externally imposed discipline, a critical evaluation of the role of the teacher as well as the Kilpatrick's criticism of the Montessori method among others. We have equally seen a criticism of the view that learners should be given independence and a critic of the use of didactic materials in class. Contemplating on Montessori's educational views gives us an insight to appreciating her contributions to the development of education in our contemporary world despite the limitations we have examined. Our next chapter shall focus on the views of other educational philosophers linked to that of Montessori.

CHAPTER FOUR

VIEWS OF SOME EDUCATIONAL CONTEMPORARIES OF MONTESSORI RELATED TO HER CONCEPTION OF EDUCATION

Having made a critical evaluation of Montessori's education and the development of human potentialities, this chapter sets to express the views of some educational contemporaries of Montessori that serve as limitation or amelioration of her thoughts. We shall focus on authors such as Hannah Arendt and her idea of the authority in education, Alfred North Whitehead and his Rhythms of education, Mahatma Gandhi's education for peace and Rudolf Steiner's holistic education. By so doing, we shall have an understanding of how the thoughts of these educational philosophers serve as a limitation of Montessori's version of progressive education as well as amelioration and better understanding of her thoughts through others.

4.1. Hannah Arendt and the question of authority in education

According to Hannah Arendt, the most manifest symptoms of the crisis in education concerned the lack of authority in modern societies. We can only speak of it in the past. In Arendt's understanding, the tenets of progressive education coupled with the influence of modern psychology changed the relationship between children and adults such that "[t]he very thing that should prepare the child for the world of adults, the gradually acquired habit of work and of not-playing, [was] done away with in favor of the autonomy of the world of childhood."¹ According to her, the lack of authority has destroyed the fundamental relation between teacher and student, and the mutual trust necessary for safeguarding the social position of the teacher.² The approach conceiving education in political terms as seen in progressive education which was prevalent from the first half of the 20th century led to what Arendt earlier termed the crisis of education. In her view, progressive education rests upon three interrelated assumptions; that the world of children is autonomous, that pedagogy is a science more important than the subject matter taught and that learning should be replaced with hands-on skill acquisition. All these three poles reflect the collapse of the distinction between children and adults. Instead of gradually acquainting the child with the world of adults through an educative encounter with a teacher who is familiar with that world, progressive education throws her to the public eye on

¹Hannah Arendt, *Between Past and Future: six exercises in political thought*, New York: Peguin Books, 1961, p.180

²Johan Dahlbeck and Peter Lilja, "The concept of authority and the Swedish Educational Crisis", in *Philosophy of education yearbook*, Ed. Natasha Levinson, 2016, p.1

her peers in an autonomous children's world.³ She argues that with progressive education, children are exposed to the world before they are ready to be so and also its leaves children without authority to guide and teach them to learn and understand the world they are born into.

According to Arendt, teachers stand in front of their students as representatives of the world, and their primary task is to take responsibility for the world regardless of any criticism they may have of it. For her, authority is an expression of responsibility on the part of the educator. In her words;

*Responsibility is not arbitrarily imposed upon educators; it is implicit in the fact that the young are introduced by adults into a continuously changing world. Anyone who refuses to assume joint responsibility for the world should not have children and must not be allowed to take part in educating them.*⁴

Assuming this responsibility according to Arendt is the source of the teacher's authority, rather than theoretical knowledge or the ability to impose ideas on or to punish learners. She goes on to affirm that "it rests on his assumption of responsibility for that world, vis-a-vis the child it is as though he were a representative of all adult inhabitants, pointing out the details and saying to the child: This is our world."⁵ The authority of the educator or teacher enables them to take responsibility for the world as it is, and at the same time to make room for the world's renewal, so that it can be sustained.⁶ This shows that the type of authority Arendt preached links the past to the future while valuing both. This is to say that educational authority rests not only on acquaintance with the world but also on the teacher taking place in it, being part of it and of the chain of generations constituting it.⁷ She goes further to affirm that;

*Education is the point at which we decide whether we love the world enough to assume responsibility for it and the same token save it from that ruin which, except for renewal, except for the coming of the new and young, would be inevitable. And education too is where we decide whether we love our children enough not to expel them from our world and leave them on their own devices, nor strike from their hands their chance of understanding something unforeseen by us, but to prepare them in advance for the task of renewing a common world.*⁸

³ Snir Itay, "Tradition, authority and dialogue: Arendt and Alexander on education", in *Foro de Educacion*, vol.16, issue 24, 2018, p.23

⁴ Hannah Arendt, *Between Past and Future: six exercises in political thought*, New York: Penguin Books, 1961, p.189

⁵ Ibid. p.189

⁶ Ruth Berkowitz, Public education: The challenge of educational authority. In W. Veck & H. Gunter (Eds.), *Hannah Arendt on educational thinking and practice in dark times: Education for a world in crisis* p. 17–31. Bloomsbury Academic, 2020, p.22

⁷ Hannah Arendt, *Between Past and Future: six exercises in political thought*, op.cit, p.193

⁸ Hannah Arendt, *Between Past and Future: six exercises in political thought*, op.cit, p.196

From this, we can deduce three key points on the responsibility places on educator. In the first instance, we understand that there is a responsibility placed on educators to enable those they educate to love and engage in the world they are born. Secondly, there is equally the responsibility to see this world as it is while trying to identifying the changes necessary to save it from the false or no longer applicable assumptions and received wisdoms of the past as well as to define the parameters of hope and expectation. Thirdly and perhaps most important, is the task of renewal. Arendt reminds us that it is essential if we are not to face the ruination of the world, the destruction of the human world as we know it and with that destruction, the emergence of forms of alienated existence devoid of social interaction or political engagement.⁹

The implications of this type of educational responsibility as prescribed by Hannah Arendt for the teacher at every level of education has been further explained by Wiercinski in his idea of what he terms ‘the hermeneutical teacher’. He affirms that;

In a process of education, what can be transferred is the testimony of our own thinking. Education is foremost about testimony, about sharing the experience of being human, sharing life, convictions, and knowledge. In its deepest existential sense, education is a call to transform our life by exercising openness toward the other and the unknown. It is an ethics of embracing the strange, the negative, without silencing the differences. In this respect education is about living diversity.¹⁰

According to Arendt, this diversity the teacher is called to possess entails learning to live within the world and for the world. Education in this respect is an avenue in which we make the world a space of mutual understandings, common meanings and shared practices.

In the same light, Arendt states that all adults not only educators and teachers, should apply a radically different attitude toward children than the one they apply towards each other. She states that, we should separate the realm of education from all others, especially political sphere in order to “apply to its alone a concept of authority and an attitude towards the past which are appropriate to it but have no general validity and must not claim a general validity in the world of grownups.”¹¹ But, we should understand that when Arendt is saying this, she does not mean that we should not respect children or that they should be arbitrarily subjected to our wills. She

⁹ John Nixon, *Hannah Arendt: The Promise of Education*, Springer, Springer Briefs on key thinkers in Education, 1st ed., 2020, p.22

¹⁰ Wiercinski Andrzej, Hermeneutic education to understanding: self-education and the willingness to risk failure. In P. Fairfield Ed., *Education, dialogue and hermeneutics*, p. 107–123, London and New York: Continuum, 2011, p.109

¹¹ Hannah Arendt, *Between Past and Future: six exercises in political thought*, New York, Penguin Books, 1961, p.195

simply meant that, in education it is very critical and important for the grownups (adults) not to treat children as equal partners. Though Hannah Arendt holds that the teacher should have authority over children, it should not be accompanied by force as she asserts; “since authority always demands obedience, it is commonly mistaken for some form of power or violence. Yet, authority precludes the use of external means of coercion; where force is used, authority itself has failed.”¹² From the above assertion, we can deduce from what Arendt is saying that the authority of the teacher is to instill obedience other than power and violence. We understand with her that, the use of authority properly or from its very essence, is not alike with the use of force or violence. The teacher is not supposed to use force on the learners even though he has the authority to make the learners obedient during the teaching/learning transaction though Arendt fails to explain how this can be done.

More so, Arendt saw the educational process as one which is conservative as she affirms “it seems to me that conservatism, in the sense of conservation, is the essence of the educational activity, whose task is always to cherish and protect something the child against the world, the world against the child, the new against the old, the old against the new”.¹³ Education from this view point therefore becomes a sphere where protection takes place. a sphere where individuals learn to recognize and respect each other’s differences as well as preserve their freedom. As such, education in this sense requires endless and perpetual renewal. Arendt placed authority as a demarcation between the private and public spheres which is essential in determining the educational setup. For Arendt, in a public or political setting everyone is each other’s equal, but on the contrary, the educational setting imposes a hierarchical difference between the educator and the learners due to authority. The educator connects the learners and the world while also protecting both from each other.¹⁴ The educator here as Arendt sees him is neither an authority that is in the sense of representing the totality of knowledge and understanding, nor in authority that is in the sense of facilitating access to that knowledge. Rather, the educator is an explainer, an interpreter and an ambassador of the world we all live in.¹⁵

According to Gordon, Arendt’s concept of authority offers a viable basis for democratic education. She advocates for a concept of authority that aims at the emancipation of students.

¹²Ibid., p.92-93

¹³ Ibid.p.192

¹⁴ Ibid.p.165

¹⁵ John Nixon, *Hannah Arendt: The Promise of Education*, Springer, Springer Briefs on key thinkers in Education, 1st ed., 2020, p.44

Hannah Arendt's clear divide between the children and the adult in her quest for authority signifies that one cannot treat children as if they are grownups. She thinks that adults ought to relate differently to children than they do among themselves. In this sense, education involves a triadic relation between the educators, the world and the children or learners. In this sense, the educator's task is to mediate between the learners and the world.¹⁶ According to Nathasha Levinson, the advantage of the educational approach advocated for by Montessori is that "it offers each new being an opportunity to see how they have been made what they are, and provides an incentive for them to reconfigure themselves in response to this history."¹⁷ Drawing from this, William reaches the conclusion that:

To view the teacher as an authority and in authority in his/her classroom need not give rise to the view that education is a "top-down", coercive and restrictive process; rather, the teacher is viewed as the master expert who guides the pupils with whom he /she has been charged towards intellectual emancipation.¹⁸

Arendt's concept of authority offers a possible explanation of why progressive education as well as more traditional conservative views on education fail to construct a viable notion of the role of the teacher. For this reason, we have understood that we should not only see the teacher as one of many equal voices in the classroom who only follows the learners as Montessori advocates for. Instead, the teacher must be granted full authority to introduce his/her students to the world as it is without being forced to succumb to either strategies of coercion or negotiations.

4.2. Whitehead's Rhythms of Education

Whitehead's Rhythms of education or the rhythmic claims of education answer the question; at what age should learners undertake different subjects and different modes of study? Like Montessori, Whitehead identifies specific stages of development which he equally believes determines the learner's study pattern. But according to Whitehead, there are three stages of development or Rhythms in education unlike Montessori who advocated for four planes of development. In a broad sense as Whitehead puts it, these stages represent the most important modes of learning as he affirmed that the rhythms of education represent "the natural

¹⁶ Mordechai Gordon, "Hannah Arendt on authority: conservatism in education reconsidered", in *Educational Theory*, vol.49, issue 2, 2005, p.171

¹⁷ Nathasha Levinson, "Teaching in the midst of Belatedness: The Paradox of Natality in Hannah Arendt's Educational Thought" in Gordon M, (ed.), *Hannah Arendt and Education*, p.11-36, Boulder, Colorado: Westview Press, 2001, p.18

¹⁸ William H. Kitchen, *Authority and the Teacher*, London, Bloomsbury Academic, 2014, p.175

cravings of the human intelligence.”¹⁹ These natural cravings run from infancy and childhood right into the adulthood. For Whitehead, a slow rhythmic movement from stage to stage lays out the full landscape of learning in a developmental and transformative perspective, with each phase of the rhythm lasting several years.²⁰ These stages include; the stage of Romance, Precision and Generalization. Explaining how these stages function, Whitehead affirms that:

*The whole period of growth from infancy to manhood forms one grand cycle. Its stage of romance stretches across the first dozen of life, its stage of precision comprises of the whole school period of secondary education, and its stage of generalization is the period of entrance into manhood.*²¹

He lays emphasis on the need for education to pay attention to these stages of growth in the same light as Montessori emphasized on the stages of development as windows of opportunity in education. According to him, the lack of attention to the rhythm and character of mental growth of learners is the main source of wooden futility in education.²²

4.2.1. The stage of Romance

This stage in education is described by Whitehead as the period of first apprehension. It is a stage of learning which is characterized by discovery, curiosity and wonder. This stage according to Whitehead stretches from birth right to the age of thirteen or fourteen. At this stage, there is an emphasis on the freedom of the child or students. It implies letting the learners get a motivating and experience based view of the subjects they are to be taught. The word “romance” in this sense indicates a passionate or loving relationship to the subject at hand. For Whitehead, emotions play a central role at this stage as he says romance “is a process of discovery, a process of becoming used to curious thoughts, of shaping questions, of seeking for answers, of devising new experiences, of noticing what happens as the result of new ventures.”²³ Here, the factors that play a leading role are wonder and excitement as educators are expected to engage and to allow the child see for itself and act for itself²⁴ He states that; “the stage of romance is the stage of first apprehension. The subject matter has the vividness of novelty; it holds within itself unexplored connections with the possibilities half-disclosed by

¹⁹ Alfred North Whitehead, *The Aims of Education and Other Essays*, New York, Free Press, 1967, p.32

²⁰ Arve Mathisen, “Rhythms in Education and the Art of Life: Lefebvre, Whitehead and Steiner on the Art of Bringing Rhythmical Transformations into Teaching and Learning” Part I in *Research on Steiner Education*, Vol.6 No.2, 2015, p.44

²¹ Alfred North Whitehead, *The Aims of Education and Other Essays*, New York, Free Press, 1967, p.25

²² Ibid. p.17

²³ Ibid.p.32

²⁴ Alfred North Whitehead, *The Aims of Education and Other Essays*, New York, Free Press, 1967, p.33

glimpses and half-concealed by the wealth of material.”²⁵ Therefore at an early stage of learning, education for romance should help the learners take part in discoveries through curiosity. At this stage, the student enjoys the freshness of inquiry into a discipline, namely, the positive feeling that one is about to embark upon the adventure of learning.²⁶ This will make them feel that they are experiencing something new as it will awaken their desire to uncover more. This is in line with the first plane of development of Montessori which she sees as the most important in the developmental life of all learners. Therefore, it is at this stage that a learner develops interest which is one of, if not the most important factor that makes lessons to be understood. This stage is crucial as it supplies the bedrock of interest in which the behavior and expectation of the later stages are predicted. Romance must be kept alive during all the stages of learning. According to Whitehead, the success of the Montessori system is due to its recognition of the dominance of romance in the educational process.

It should be noted that Whitehead’s first stage of rhythmic movement necessitates educators to pay attention to the integration real life situations at school in order to enhance learning. It calls for an educational system that partly goes beyond the command of teachers and of the curricula.

4.2.2. The stage of Precision

The stage of precision is the next movement in Whitehead’s rhythm of education. It stretches from the age of fourteen to eighteen. It is at this stage that we see facts, grammar, yes and no’s in focus. In short it is here that perfection occurs in the learning pattern of most learners. We can see this as he maintains that; “the perfecting of writing, of spelling, of the elements of arithmetic and lists of simple facts.”²⁷ Precision is given its rationale as a disciplined second step following the freedom of romance. It aims at acquiring the craft of basic attainment within each subject. Romance opens up, stirs the emotions, evokes engagement, and enacts multiple perspectives. When children have dwelled for a while in the freer apprehension of romance, as Whitehead contends, they will long for fact and precision. This therefore transforms the ‘opening up’ quality of romance into something that learners can accomplish, which adds value to their wisdom. At this stage, the foundation provided by freedom for the period of romance fosters the development and growth of self-discipline. He

²⁵ Ibid.p.17

²⁶ Nelson Shang and Valentine Ngalim, “On the Dangers of Inert Ideas in Education: Reflections on Alfred North Whitehead’s *The Aims of Education and Other Essays*” in *International Case Studies Journal*, Volume 9, Issue 12, 2020, p.52

²⁷ Alfred North Whitehead, *The Aims of Education and Other Essays*, op.cit., p.22

affirms that; “The discipline, when it comes, should satisfy a natural craving for the wisdom which adds value to bare experience.”²⁸ This is a stage that brings rectifications because it requires some special explanation for misinterpretation to be avoided. This stage of Precision turns out to be an indispensable and potentially fruitful part of Whitehead’s educational rhythm, but must constantly be kept within its boundaries in order not to dominate and hamper the freer breathing of learning and teaching.

4.2.3. The stage of Generalization

This is the third and last rhythmic movement in Whitehead’s educational scheme. It is at this stage that the first two rhythms are brought into fruition and mastery. This means that generalization involves the merging and comparisons of feelings originally experienced in the stage of romance with the conscious awareness of the subject-matter attained through the stage of precision. At this stage, interest and skills combine with immediate experience to bring the “individual toward a comprehension of the art of life. I, (Whitehead) mean the most complete achievement of varied activity expressing the potentialities of that living creature in the face of its actual environment.”²⁹ At this level, the individual is able to achieve an understanding of the stream of events which passes through his life. It involves the application of the specific conceptual ideas learned through the stage of precision, creatively modifying the, into something new and applying them to concrete facts

At this level, the teacher needs to know and understand each student. In short, the success of a program is predicated upon the ability of the teacher to understand how each child sees education as an immediate force in his life. For generalization to be attained, certain freedom must have been reached and more profound level of orientation should take place.

In terms of formal education, Whitehead locates generalization at the university level. The students at this level “should start from general ideas and study their extension to concrete cases.”³⁰ In this case, Whitehead’s rhythm of education resembles the rhythm of research which alternates between observations to application of concepts. He points out in this light that education should begin with research and end in research.³¹

Moreover, Whitehead like Montessori taught that the educational environment should be carefully selected according to the subject matter and the abilities of learners. New learning

²⁸ Alfred North Whitehead, *The Aims of Education and Other Essays*, op.cit., p.32

²⁹Ibid., p.39

³⁰ Ibid., p.26

³¹ Ibid., p.37

experiences and materials should be presented in a lively way and in a way that will actively involve the learners. He emphasizes this while affirming that;

The environment within which the mind is working must be carefully selected. It must, of course, be chosen to suit the child's stage of growth, and must be adapted to individual needs. In a sense it is an imposition from without, but in a deeper sense it answers to the call of life within the child. In the teacher's consciousness the child has been sent to his telescope to look at the stars, in the child's consciousness he has been given free access to the glory of the heavens.³²

Linking teaching to real life situations with experiences upon the environment was deeply rooted in progressive educational thinking at the beginning of the 20th century.

Whitehead insisted that all processes of learning should follow this triadic structure or rhythms of education in order to be a success. Each lesson, for example, should be formed according to the same rhythmic scheme. Subjects as well are to be introduced to the learners while taking into consideration the rhythm they are undergoing. Language, for example, is introduced at the stage of romance while science comes in later on. Whitehead's conception of rhythms in education is thus built on a very simple structure that is continuously repeated in manifold ways, from the smallest unit of a lesson to the span of more than twenty years.³³ It can be understood from a holistic view point where parts display features from the whole.

4.3. The Rhythmic claims of freedom and discipline

Whitehead like Montessori thinks that freedom and discipline links the students to reality. For this to happen, he thinks there should be a balance between the two principles since learning outcomes are greatly influenced by these. An imbalance between freedom and discipline will only lead to failure. Teachers who understand the rhythmic nature of growth that each learner passes through are faced with the problem that romance and generalization obviously require great measures of freedom while the stage of precision is dominated by discipline. According to Whitehead, when we recall the stages of romance and generalization as being characterized by impulses of freedom and the stage of precision recognized as discipline, we cannot minimize the role such plays in the educational process. He pointed this when he affirmed:

³² Ibid.p.32-33

³³ Arve Mathisen, "Rhythms in Education and the Art of Life: Lefebvre, Whitehead and Steiner on the Art of Bringing Rhythmical Transformations into Teaching and Learning" Part I in *Research on Steiner Education*, Vol.6 No.2, 2015, p.44

*The two principles freedom and discipline are not antagonists, but should be so adjusted in the child's life that they correspond to a natural sway, to and fro, of the developing personality. It is this adaptation of freedom and discipline to the natural sway of development that I have elsewhere called The Rhythm of Education.*³⁴

In this case, we should note that if a lesson is built up according to this rhythmic structure, the start in the spirit of romance implies an element of freedom. Freedom must be available in the first stage of learning for it is a time of discovery where the learner must be led to explore and discover useful facts. The continuation of precision is the emergence of disciplinary mode of working. At the end, generalization opens up into freedom again. Whitehead sees rhythms as expressions of life. They become a vehicle of emergence. This explains the reason why Allan comments:

*Generalization is the recognition that truly to master a discipline is persistently to rethink its conditions, to reconceive its theories and redesign its methods to master a discipline is to perfect the world it fashions by surpassing it, and to do so again and again, worlds without end.*³⁵

Whitehead states that it is for him (the teacher) to elicit the enthusiasm by resonance from his own personality and to create the environment of a larger knowledge and a firmer purpose. With this, whitehead in line with Montessori affirms that the teacher should have the ability to discover in practice that exact balance between freedom and discipline which will give the greatest rate of progress over the things to be known.³⁶

It is worth note that Whitehead went further to enunciate two educational commandments, according to him, “Do not teach too many subjects,” and again, “What you teach, teach thoroughly”³⁷ Teaching too many subjects actually has as disadvantage; the fact that the teacher would only teach small parts, not everything there is to teach in such courses. Secondly on the part of the students, there will be a passive reception of disconnected ideas not illumined with any spark of validity.³⁸ It is as such important to teach fewer subjects thoroughly and systematically rather overloading students with too much material that surpasses their mental capabilities. Whitehead goes further to affirm that “Let the main ideas which are

³⁴ Alfred North Whitehead, *The Aims of Education and Other Essays*, New York, Free Press, 1967, p.30-31

³⁵ George Allan, *Modes of Learning: Whitehead's metaphysics and the stages of education*, New York, SUNY Press, Kindle Ed. 2012, p.58

³⁶ Alfred North Whitehead, *The Aims of Education and Other Essays*, op.cit, p.35

³⁷ *Ibid.*, p.2

³⁸ Nelson Shang and Valentine Ngalim, “On the Dangers of Inert Ideas in Education: Reflections on Alfred North Whitehead's *The Aims of Education and Other Essays*” in *International Case Studies Journal*, Volume 9, Issue 12, 2020, p.50

introduced into the child's education be few and important, and let them be thrown into every combination possible. The child should make them his own, and should understand their application here and now in the circumstances of his actual life".³⁹ This means that each and everything taught to learners right from the very early beginning of their education should have a connection with and also be useful in the daily life situations they are faced with. They should also be able to experience the joy of discovering and understanding the concepts they are being taught in school, seeing how general ideas learned at schools lead them to understand various events in their daily life.

4.4. Mahatma Gandhi's education for peace.

Like Montessori, Gandhi believed that the natural inclination of children is not towards disorder and violence but towards harmony and fulfillment of inherent potentials. They both believed that to have real peace in the world, we must begin with the children. According to Gandhi education should be based on all round development of human personality, that is the physical, intellectual and spiritual development of each human being. Like Montessori, Gandhi's educational ideas aim at the development of the personality of each learner rather than a mere literacy or acquisition of knowledge of different subjects. He believed that education should develop all the capabilities of the child so that he can become a complete human being. He expresses this while affirming that "by education, I mean all-round drawing out of the best in the child and man's body, mind and spirit..."⁴⁰ All the hidden powers of each learner should be developed according to the community in which he finds himself. He insisted on the development of the three H's which are; Hand, Heart and Head. He goes further to affirm that;

*But unless the development of the mind and body goes hand in hand with a corresponding awakening of the soul, the former alone would prove to be a poor lop-sided affair. By spiritual training I mean education of the heart. A proper and all-round development of the mind, therefore, can take place only when it proceeds pari passu with the education of the physical and spiritual faculties of the child. They constitute an indivisible whole. According to this theory, therefore, it would be a gross fallacy to suppose that they can be developed piecemeal or independently of one another.*⁴¹

³⁹ Ibid., p.2

⁴⁰ Mahamat Gandhi, *Harijan* 31-7-1937, p.197. Harijan was an English weekly journal founded by Gandhi and published under the auspices of the Harijan Sevak Sangh.

⁴¹ Mahamat Gandhi., *Towards New Education*, Navajivan Publishing House, ed. Bharatan Kumarappa, 1953, p.52-53

True education in this light brings about a harmonious functioning of the body, heart, mind and soul and stimulates the spiritual, intellectual and physical faculties of man. He felt that an undue emphasis on any one of these factors not only negates the basic principles of education but also retards the development of the self.

Gandhi believed that every educated person should be able to escape conflicts at all levels. That is the reason why he advocated for education for peace or peace education. As earlier seen, the Peace Education Working Group at UNICEF defines peace education as;

*the process of promoting the knowledge, skills, attitudes and values needed to bring about behavior changes that will enable children, youth and adults to prevent conflicts and violence both overt and structural, to resolve conflicts peacefully and to create the conditions conducive to peace, whether at an intrapersonal, interpersonal, intergroup, national and international level.*⁴²

In line with this definition and vision of education in promoting peace, Gandhi advocated for an educational approach that promotes the acquisition of moral value such as truthfulness, non-violence or love, self-control, forgiveness, non-enmity or friendliness, compassion and mercy among others. These values are the best equipment according to him that can be used by human beings to escape various types of conflict. Awareness and awakening of creative qualities must be a part of education policy and curriculum according to Gandhi. Education should enable an individual to develop tolerance, love and humaneness which are necessary preconditions to promoting the virtues of peace and non-violence. According to him, non-violence is the soul force or truth.⁴³ His basic educational task is that of preparing the young learners to become morally sound, individually independent, socially constructive, economically productive and responsible future citizens who can prove helpful in solving societal problems.

Gandhi was in favor of the youths serving the villages and attaining ‘sarvodaya’ (upliftment of all) since he emphasized on education as a tool for the promotion of peace. Social service according to him is an inherent component of education, which has to guide every learner in an attempt to serve humanity through the knowledge of tolerance and co-existence acquired through education. He emphasizes this as he affirms; “The end of all education should surely be service, and if a student gets an opportunity of rendering service even whilst he is

⁴² UNICEF, Peace Education in UNICEF, United Nations Children’s Fund Programme Publications, 3 UN Plaza, New York, 1999

⁴³ Vijayalakshmi N and others, “Relevance of Gandhian philosophy in the 21st century” in *International Journal of Research I Engineering, IT and Social Science*, Vol. 6, Issue 1, 2016

studying, he should consider it as a rare opportunity and treat it not really as a suspension of his education but rather its complement.”⁴⁴

According Mukalel Gandhi did not only have a concrete conception of the personality he believed education should foster but he equally possessed the kind of personality he wanted others to develop. In his words;

*the Gandhian conception of personality is a holistic personality in which every aspect, attitude and aptitude is given a balanced development and his concept of education puts the highest importance on the formation of the individual's personality which will be capable of subsuming the highest and ultimate ideals of human life.*⁴⁵

This shows that it is necessary as a stakeholder or an educator to portray the kind of skills we expect our learners to have. The Gandhian vision of education has character-building as one of its aims. It is the education that guides and enables an individual to develop into a better human being and provides direction in the diverse aspects of human development. Gandhi made several references to religion as the sole guide from which he drew various examples to mould his attitude and views on education for peace. According to him,

*a curriculum of religious instruction should include a study of the tenets of faiths other than one's own. For this reason, the student should be trained to cultivate the habit of understanding and appreciating the doctrines of various great religions of the world in a spirit of reverence and broad-minded tolerance... this study of other religions besides one's own will give one a grasp of the rock-bottom unity of all religions and afford a glimpse of universal and absolute truth which lies beyond the 'dust of creeds and faiths'.*⁴⁶

From this, we understand that Gandhi's aim was to help individuals to be aware of his or her moral duties and responsibilities. Tolerance for others religious beliefs is the core of education to promote peace. Education in this light also develops tolerance, love and humaneness which are necessary preconditions to acquire the virtues of non-violence.

When environmental consciousness, moral values, intrapersonal skills, community and society oriented awareness are all inculcated in young minds through education, then only development of a peaceful and harmonious community in a true sense can be possible.⁴⁷ Gandhi

⁴⁴ Mahamat Gandhi, *Towards New Education*, Navajivan Publishing House, ed. Bharatan Kumarappa, 1953, p.41

⁴⁵ Mukalel, Joseph C., *Gandhian Education*, Discovery Publishing House, New Delhi, 1997, p.198

⁴⁶ Mahamat Gandhi, *Towards New Education*, op.cit, p.56

⁴⁷ Paresh Shah, "Gandhi's views on Basic Education and Its Relevance", in *Pune Research an International Journal in English*, Vol.3, Issue 4, 2017

often reminded learners of the positive effects of these qualities through right education. To say it in his words, “your education should be built on the foundation of truth and love. Unless this is done, your education will be rendered useless.”⁴⁸ His teachings to the students stand testimony to his abiding interest in directing the new generation towards nation-building. In the Gandhian scheme of character-building, righteousness, passion for self-help and attitude of peace are some of the most important qualities that can be developed through the right education.

In addition to idea of education for peace and nonviolence, Mahatma Gandhi advocated to the freedom of the learners under discipline. Like Montessori, he believed that freedom carries with itself a degree of discipline and humility that is very important for learners in education. He says this while affirming that;

*The pupils must have initiative. They must cease to be mere imitators. They must learn to think and act for themselves and yet be thoroughly obedient and disciplined. The highest form of freedom carries with it the greatest measure of discipline and humility. Freedom that comes from discipline and humility cannot be denied, unbridled license is a sign of vulgarity injurious alike to self and one's neighbors.*⁴⁹

This shows the need for self-control since they are encouraged to think independently while being obedient to their teachers. Gandhi believed that the highest form of freedom that can be given to learners carries with it measures to maintaining discipline. He regarded discipline as the main ingredient of a responsible individual in maintaining a peaceful society.

4.5. Rudolf Steiner’s holistic Education

Rudolf Steiner developed his educational ideas after the First World War and focused on imaginative, aesthetic and holistic methods that can help support learners to reach their full potentials as creative, intelligent human beings. Modern man's understanding of education was somehow limited to being able to spell without being able to read. According to Steiner, man must make a conscious effort to re-integrate educational thought into an organic whole which is not merely theory or ideology, but based on life itself.⁵⁰ As we have earlier seen with Montessori and other advocates of progressive education, children are seen as active agents of their own development, driven by natural, self-guiding forces that guide them towards

⁴⁸ Mahamat Gandhi., *Towards New Education*, Navajivan Publishing House, ed. Bharatan Kumarappa, 1953

⁴⁹ Mahamat Gandhi, *Towards New Education*, op.cit., p.39

⁵⁰ Rudolf Steiner, *Education and modern Spiritual Life*, Steiner Books, revised edition 1989, p.186

achieving the processes of learning and growth. In the same line of thought, Rudolf Steiner holds that;

For no education will develop from abstract principles or programs. it will only develop from reality. And because man himself is soul and spirit, because he has a physical nature, a soul nature, and a spiritual nature, reality must again come into our life, for with the whole reality will the spirit also come into our life, and only such a spirit as this can sustain the educational art of the future.⁵¹

Educators will be guided not by principles, but by the life-processes that are going on in children.⁵² Steiner emphasized the immense importance of seeing our whole teaching work as a complete organism, so that gradually we come to recognize everything in it as part of a living whole.⁵³

These educational ideas brought forth by Steiner can be properly understood in practical life. To him, the need for education to be holistic is an attempt to understand the need for education to enter into life itself, countering the tendency of modern man to become imprisoned only within his intellect.

The only hope for us to meet these boys and girls with understanding lies in taking the utmost pains to imbue our own instinctive life - our feelings and inner perceptions - with spiritual science. It is imperative that we press forward in this way with our own self development. And that is what I mean when again and again you have heard me say: 'Anthroposophy⁵⁴ is itself pedagogy.' That is, it becomes pedagogy so soon as we are given the opportunity to-educate. All we have to do is call up from the depths of our soul what has been planted there by anthroposophy.⁵⁵

4.5.1. The role of the teacher

Steiner was more concerned that teachers themselves should take responsibility for creating their curriculum on the basis of the principle of holistic education. According to him, the teacher's work has to do with developing all the four aspects of the child's being which are the physical body, the Soul Bodies and the Ego⁵⁶. As all of these four aspects change and

⁵¹ Rudolf Steiner, *A Modern Art of Education*, Rudolf Steiner Press, London, 1972, p.104

⁵² Rudolf Steiner, *Waldorf Education for Adolescence, Eight lectures given in Stuttgart*, June, 1921. Trans., Kolisko Archive Publications, United Kingdoms, 1980, p.31.

⁵³ *Ibid.*, p.16

⁵⁴ Anthroposophy is a formal educational, therapeutic and creative system established by Rudolf Steiner, seeking to use mainly natural means to optimize physical and mental health and well-being.

⁵⁵ Rudolf Steiner, *Waldorf Education for Adolescence, Eight lectures given in Stuttgart*, June, 1921. Trans., Kolisko Archive Publications, United Kingdoms, op.cit, p.93

⁵⁶ Rudolf Steiner, *Education of the Child in the Light of Anthroposophy*, Rudolf Steiner Press, 1981, p.12

develop during the child's life at school, the teacher must ensure that they are properly met by the experiences he or she has in school. The teacher must shape all his teaching from what he "reads" in the child's whole being. His feeling for temperament must become second nature so that he turns spontaneously to the individual or group that he is influencing. Everything the teacher gives his pupils must be an answer to what he perceives in them.⁵⁷

*For, in fact, if the educator is a complete human being he receives as much from the child as he gives to the child. Whoever cannot learn from the child what he brings down from the spiritual world, cannot teach the child about the mysteries of earthly existence*⁵⁸

During the early years of the child, the teacher might find the need to compensate for what the child was not given at home. For this reason, the teacher must understand that there are certain things that the child needs to absorb through natural imitation. The teacher has to try to relate and harmonize the content of subjects that each learner is expected to take during the teaching/learning process. In order to do this, the first step is to conquer the sense of superiority with which intellectualism fills the teacher with. This explains why Steiner affirms that "the whole of our being must work in us as educators, not only the thinking man; the man of feeling and the man of will must also play their part."⁵⁹This imposes a great deal of responsibility on the teacher.

Moreover, according to Steiner the teacher must be the driving and stimulating force in the whole educational process. The teacher should make his own teaching aids, using his own creativity. He should always be ready to adapt to the developmental changes in his learners and never take their needs for granted. This is because Steiner also believes that learners pass through developmental stages that are very important in guiding the way they learn and make educational progress.

Above all, Steiner is of the view that love should be an inherent virtue for all teachers, love for the child and also love for education itself. If the teacher has such love which is objective in character, he will be able to give the child genuine freedom when he or she attains a certain level of understanding in education. In this light, love can be seen as a tangible

⁵⁷ Richard John, *A Study of the Educational Thoughts of Steiner*, Masters Thesis, Department of Education, Rhodes University, Grahamstown, 1982.

⁵⁸Rudolf Steiner, *Education as an Art*, edited by Paul M. Allen, Rudolf Steiner publications, New York, 1970, p.23-24.

⁵⁹ Rudolf Steiner, *Roots of education*, Five lectures given in Berne in April 1924, Translated by Helen Fox, Rudolf Steiner Press, London, 1968, p.13

influence in education. To this effect, Steiner's words that stand as a message to educators goes thus;

Watch yourselves and observe the difference first, when you approach a child more or less indifferently, and then again when you approach him with real love. As soon as you approach him with love, and cease to believe that you can do more with technical dodges than you can with love, at once your educating becomes effective, becomes a thing of power. And this is more than ever true when you are having to do with abnormal children.⁶⁰

This emphasis laid on the concept of love by Steiner works for the education of all but most especially for learners with special needs.

4.5.2. The three stages of development in education

According to Steiner a human being is a threefold being composed of a spirit, soul and body whose capacities unfold in three developmental stages. This means that all learners evolve through three stages. As such, the curriculum should be designated in response to these developmental stages.

The first stage he labeled the time of imitation and occurs from birth to approximately age seven. Once the child is born, he or she has been released from the protection that existed in the mother's womb and now exists as an independent physical organism.⁶¹ Here the etheric and astral bodies are not yet born. At this stage their task is to work within the body as a unity and the faculties which they give rise to later, such as thought, memory, feeling and will, must not be drawn from the child.⁶² One of the most essential principles that should govern educators at this stage in a learner's life is that the awakening forces are already within the child; they do not have to be implanted by the educator. Steiner supported this while saying that; "We can awaken what is in the child, but we cannot implant content into him."⁶³ This implies that from the beginning, a child must not be forced to walk, but rather helped to so will according utmost respect for the inner mystery which helps him or her to walk. At this stage, Imitation plays a much deeper role than is normally recognized. Not only does the child at this stage imitate the speech or language he or she hears and is taught but its inner character of truthfulness is also absorbed into the whole bodily organism of the child.

⁶⁰ Rudolf Steiner, *Curative Education*, Translated by Mary Adams, Rudolf Steiner Press, London, 1972, p.213

⁶¹ Rudolf Steiner, *Education of the Child in the Light of Anthroposophy*, op.cit, p.13

⁶² Ibid.

⁶³ Rudolf Steiner, *The Study of Man, Fourteen lectures given in Stuttgart in Aug/Sept 1919*, Translated by Daphne Harwood and Helen Fox, revised by A.C. Harwood, Rudolf Steiner Press, London, 1966, p.154

A child whose teachers are filled with inner truthfulness will, as he imitates his environment, so learn to speak that the subtle activity constantly generated in the organism by the processes of in-breathing and out-breathing will be strengthened. Naturally, these things must be understood in a delicate and not in a crude sense. The processes are indeed delicate, but are nevertheless revealed in every manifestation of life.⁶⁴

This means that it is important not to always repeat the blabbing of the child when trying to learn speech, but to try to instill well organized adult speech in them which will help in their development. This will lay the foundation not only for sound speech, but also for sound thought. According to Steiner, imitation during the first stage of development should not be interrupted. This because when the impulse to imitate is not fulfilled in early childhood, it emerges in adolescence as a harmful influence instead of the strengthening foundation for life that it is designed to be.⁶⁵ This explains why he asserts that concerning the adolescent; “If he has nothing within him that he has acquired through imitation and imagery, which can rise up into his thinking out of the depths of his soul, then when his thinking should develop at puberty he will find nothing within himself to further his own growth, and his thinking can only reach into emptiness....”⁶⁶ This stage is the most important one in the whole of life and great respect must be paid to the being of the child.

The second stage occurs from the age seven to fourteen when children lose their baby teeth. According to Steiner, the second set of teeth pushing out the first set visibly represents the etheric body breaking out of its “etheric envelope” The etheric life force is vital energy found in plants, animals, and humans. According to Steiner, the etheric force is what distinguishes living things from minerals. When the etheric body is released, the formation of character, temperament, habits, and memory follows. The reason why children are not taught at the first stage to read or memorize facts before age seven is because the etheric body is still tied to and working on the physical body. When one teaches children intellectual matter before the release of the etheric body, one is directly causing harm to the child, resulting in scars that can manifest themselves many years later in the form of diseases.

According to Steiner learners at this stage of development have an inner need for a sense of authority, the kind of authority that prepares them to leadership. The learner’s need for authority here should not be confused with the desire to control. Steiner often cautioned

⁶⁴ Rudolf Steiner, *Education and modern Spiritual Life*, op.cit, p.111

⁶⁵ Richard John, *A Study of the Educational Thoughts of Steiner*, Master’s Thesis, Department of Education, Rhodes University, Grahamstown, 1982, p.129

⁶⁶ Rudolf Steiner, *Roots of education*, Five lectures given in Berne in April 1924, Translated by Helen Fox, Rudolf Steiner Press, London, 1968, p.85

teachers that by authority he meant "the child's natural response to its teacher," and not "an enforced authority. For it is this authority according to him that creates the right relationship between the learner and the teacher. Steiner also pointed out that at the age of nine in particular, children's need for authority changes from an inherent belief in everything the teacher says to a need for explanation. Therefore, at this time the teacher must alter his or her relationship to the students.

Finally, the third stage from the age of fourteen to twenty-one (from puberty to adulthood). This stage is marked by the release of the astral body that is the body of consciousness. Thinking and judgment are the two dominant aspects of this stage of development. This shows that the educator at this level can proceed to the introduction of abstract concepts freely. During this stage the learner comes into possession of his own mind. This shows that this stage is that in which intellect and the faculty of judgment is mature, and the learner begins to develop the ability to draw conclusions and make decisions for himself.

We must strive to educate in such a way that the intellect, which awakens at puberty, can then find its nourishment in the child's own nature. If during his early school years he has stored up an inner treasury of riches through imitation, through his feeling for authority and from the pictorial character of his teaching, then at puberty these inner riches can be transmuted into intellectual activity. He will now always be faced with the task of thinking what before he has willed and felt. And we must take the very greatest care that this intellectual thinking does not appear too early. For a human being can only come to an experience of freedom if his intellectuality awakens within him of itself, not if it has been poured into him by his teachers.⁶⁷

By this, the learner at this level will be able to develop the ability to use the intellect in the right and natural way. This helps to exercise and strengthen the intellect for further education in life.

As with the previous stages, the task of the educator during the child's adolescence is to prepare him to be able to attain full independence as an adult. This stage is of great importance to the whole of life because it is the time when the learner's subjective nature is maturing. It should be noted that proper development in this stage depends on a proper follow up of education in the previous stage. The child's urge to imitate during the first stage must be

⁶⁷ Rudolf Steiner, *Roots of education*, Five lectures given in Berne in April 1924, Translated by Helen Fox, Rudolf Steiner Press, London, 1968, p.86

fulfilled before the need to follow an authority can unfold. Now, after puberty, if his need for and questioning of authority has been met, the adolescent can develop his freedom.⁶⁸

According to Steiner, being able to guide the learner through all the stages of development in an appropriate manner cannot be carried out by instruction (only telling the learner what should be or what he or she should do.) It must be grounded in human life as he affirms;

The only right course is that the authority of the teacher, by his words and deeds, gives the child a natural faith. The teacher, who is the real representative of the world as far as the child is concerned, does not prepare him through the control of the understanding or of the capacity to form judgments, but through his own living person he prepares him to evolve further in his contact with the world as a living person himself. Life can only evolve with life.⁶⁹

This shows that for education to achieve its goal of developing the inherent potentials of learners, there is need for the teacher to serve as an exemplary model for the learners to follow.

In an attempt to express the views of some of the educational contemporaries of Maria Montessori related to or opposed to her thoughts. From our work on this chapter, we have been made to understand that seeing education from the point of views of others makes us to better appreciate Montessori in one way or the other. We came across ideas such as whitehead's rhythms of education where we were able to have a deeper understanding through his stages of development in education and how they influence learning which basically corresponds to the developmental stages earlier expounded by Montessori. We have also seen the three stages of education as expressed by Rudolf Steiner.

⁶⁸ Ibid., p.85

⁶⁹ Ibid.

PART THREE

PERSPECTIVES FROM MONTESSORI'S EDUCATION AS THE DEVELOPMENT OF HUMAN POTENTIALITIES

Having examined some shortcomings or limitations of Maria Montessori's educational views as well some ideas related to her thought, this part of our work sets out to elaborate on the relevance of her thoughts in our contemporary world. Education as many believe contributes to the development of an individual and the progress of a society. For Montessori, education is the basis of development given the fact that it paves a way for the unfolding of one's innate potentials. In the previous chapters, we have seen how the lack of critical education that promotes the development of human potentials has led to some of the crisis plaguing the educational sector of some parts of the world. Understanding Montessori's educational doctrines equips us with concrete ideas on how to structure our educational systems to achieve the best results. In chapter five, we shall be looking at the contributions made by Montessori fostering education at a general level. Chapter six on its part shall be dedicated to an exposition of the Competency Based Approach in education as a means of appropriating Montessori's educational goals.

CHAPTER FIVE

CONTRIBUTIONS OF MONTESSORI'S IDEAS IN FOSTERING EDUCATION AS A WHOLE

This chapter presents the contributions made by Maria Montessori's ideas to foster educational progress at every level. It should be noted that the value Montessori places in education as a means of developing the potentialities of each and every learner is undoubtedly concrete in recording educational progress. The Montessori approach is often described as an "education for life." Here, we are going to demonstrate Montessori's contributions to education such as the establishment of education as a progressive enterprise, the encouragement of a child centered curriculum, her idea of redefining the role of the teacher in the educational process as well as education as a means of promoting world peace.

5.1. Establishing education as a progressive enterprise

From the moment of birth, each learner grows progressively while developing different capacities at each given moment. These capacities influence how they learn, communicate, make decisions, exercise judgments, absorb and evaluate information as well as take responsibility for actions. When an educator has a better understanding of how his learners develop, he can use that understanding to make assessment about their behaviors in the classroom.

According to Maria Montessori, education is determined by the various stages or planes of development every learner finds his or herself in. Each stage has its own dominant faculty and characteristic, which emerges and becomes the mainspring in organizing life. Montessori believes that education begins at birth. She discovered that when a child reaches six months and above, certain important phenomena start presenting themselves as signs of normal growth. Nature is seen to command the child to grow progressively achieving different goals at different stages of development. In organizing the curriculum today, the relevance of Montessori's idea of education as a step by step process, responding to the needs of the learner at each particular moment is greatly considered. For instance, the curriculum cannot be organized without taking into consideration the different stages and aptitudes of the learners. Formal education in Cameroon begins at the pre-nursery level to the nursery, primary, secondary and higher institutions of learning respectively. The curriculum designed for these different stages has to correspond to the needs, interest and aptitudes of the learners. Making recourse to Montessori's

four planes or stages of development in education, we shall see how it can be adequately applied within the context of formal education in Cameroon.

To begin with, the first plane known as infancy stretches from zero to six years of age. This corresponds to the pre-nursery and nursery levels. When entering the nursery school, the child is around three years old and is able to express basic needs verbally. Infants and young children at this level are said to be in a “discovery mode.” They are driven, as if by an internal force, to interact with the environment and absorb all the information about the world that they can get. Infants at the kindergartens are always ready to explore with their mouths and hands, they are constantly in motion, making sounds and listening, looking everywhere.¹ They want to touch everything they can, to taste, to move. It is here that new classroom routines and etiquette is taught and the child learns how to be away from the comfort of their homes. Infants and young children acquire information about the world primarily through their heightened senses of touch, smell, sound, sight, and taste. It is naturally a self-centered time because little children have an immense task to focus on building the foundation for a life, a body, and a personality. During this stage, the mind acts like a sponge, absorbing impressions from the environment surrounding it. The focus of their learning is an introduction to literacy whilst they grow in their knowledge and understanding of the world.² At this level, programmes are not necessarily highly structured but are designed to provide an organized and purposeful set of learning activities in a safe physical environment. They allow children to learn through interaction with other children under the guidance of educators, typically through creative and play-based activities.³ The educational properties of this educational level are characterized by a learning environment that is visually stimulating, rich in reality, culture, communication, nature, and the best of human interactions and language rich which helps to boost self-expression and the use of meaningful language for communication. They are also introduced to alphabetical and mathematical concepts, and encouraged to explore their surrounding world and environment.⁴

The second stage or plane of development known as childhood stretches from the age six to twelve. This corresponds to the primary school level and is typically designed to provide pupils with fundamental skills in reading and writing (literacy and numeracy) and also to

¹ Paula Lillard, “The Four Planes of Development: Child Development in Four Questions”, by Forest Bluff School, 2018, p.1

² Babara Isaacs, *Understanding the Montessori Approach: Early years of Education in practice*, 2nd ed. New York: Routledge, 2018, p.43

³ International Standard Classification of Education, (ISCED) UNESCO Institute for Statistics, 2012, p.26

⁴International Standard Classification of Education, op.cit, p.27

establish a solid foundation for learning and understanding core areas of knowledge, personal and social development, in preparation for secondary education. It is also a time of rigorous mental work: children in the second plane of development are fascinated by information and have multiple interests.⁵ It focuses on learning at a basic level of complexity. At this level, Montessori advocates for a learning environment that would appeal to the pupil's need for rich intellectual stimulation, collaborative work, and opportunities to develop their relationships, their abilities to empathize, and their personal moral frameworks.⁶ This well designed environment will encourage the learners to ask the "Why?" question and to seek out the answers to their innumerable questions by exploring the world of information. Typically, there is one main teacher responsible for a class of pupils who organizes the learning process, although a class may have more than one teacher, especially for certain subjects or units. It is greatly encouraged today that learners at the primary level should take interest in their own learning and not only rely exclusively on memorization and text books. Primary education typically lasts until age 10 to 12.

The third plane is from the age of twelve to eighteen. This corresponds to the secondary school level. Here there is an observation of dramatic physical and psychological changes occurring at approximately age twelve and above (puberty) and as such there is the need for specific support in this stage. Montessori called adolescents at this plane "social newborns" who undergo a kind of "rebirth" as they are now confident, capable, fully-grown *childhood* selves morph into newly developing *adult* bodies and minds.⁷ New psychological characteristics emerge in the mind of the individual such as doubts, hesitations, violent emotions, discouragement and an unexpected increase in intellectual capacity. According to Montessori this learner at this stage are generally characterized by the quest for what she called *valorization*.⁸ Programmes at this level of education are usually centered around a more subject-oriented curriculum, introducing theoretical concepts across a broad range of subjects.⁹ Teachers typically have pedagogical training in specific subjects and a class of students may have several teachers with specialized knowledge of the subjects they teach.

At this level, we have the lower-secondary school which lasts for 5 years and then High school or upper secondary typically designed to complete secondary education in preparation

⁵Paula Lillard, "The Four Planes of Development: Child Development in Four Questions", op.cit, p.3

⁶ Ibid.

⁷Ibid., p.4

⁸ This means to be recognized and appreciated by the adult group they want to enter, through their own actions and visible contributions that are *real* and *valued*.

⁹ International Standard Classification of Education, (ISCED) UNESCO Institute for Statistics, 2012, p.33

for tertiary education or to provide skills relevant to employment, or both. Programmes at this level offer students more varied, specialized and in-depth instruction than programmes at lower level.

The fourth plane continues from the age of eighteen to twenty-four. This corresponds to the university level or tertiary education. This is the time for deeper and more specialized study, time for the adult to help others with his or her unique contributions and to be able to instigate change in their communities. This level relates to social responsibility, moral independence and training to do work that contributes to the common good of humanity. Here, there is development and consolidation of the creations formed in adolescence or the third plane of development. Montessori pointed out that intense study at this level and/or real work experiences in the adult world gives young people what they need at this stage of life, helping them to answer the question, “What will I do?” Thus, the final cause of the Montessori developmental pathway is a humanistic one, in which learners are enabled to achieve their full potential.

What is worthy of note here is that a learner’s successful development in education as corresponding to each plane or stage of life depends on the attention given to the needs and characteristics of the previous one. According to Montessori if education is to achieve its aim of developing human potentialities in its totality, there should be no rushing through one stage to get to the next, or skipping steps. Certainly she recommends that educational authorities should continue to work on developing characteristics throughout the lives of their learners who never stop growing and improving in abilities as they progress from level to the other. By understanding and recognizing when nature has given each human being the sensitivities to acquire certain attributes, and designing learning environments that meet these developmental needs, we can certainly achieve our educational goals. This falls in line with Article 4 of the 1998 Law to Lay down Guidelines for Education in Cameroon which states that;

The general aim of education is to ensure the intellectual, physical, civic and moral development of the child as well as its economic, sociocultural, political and moral integration in the society. Bearing in mind the prevailing economic, socio-cultural, political and moral factors.¹⁰

The ultimate goal is to support children to develop themselves fully in all aspects, so that they can be happy, successful, and contribute to society in meaningful ways. Montessori’s discovery

¹⁰ MINEDUC/BAD, *Curricula Based on the Development of Competences: Cameroon Primary English, Mathematics Syllabuses*, Yaoundé, 2003

of the Four Planes of Development and how education can match them is certainly one of her greatest gifts to the educational world at large. This shows that Montessori's idea that education progresses in response to the different developmental stages of the learner is vital in today's educational system.

In addition to this, research shows that the direct method of instruction which was used in the earlier part of the century, though effective for some skills is giving way to a more cooperative approach to learning. This approach involves teachers serving as coaches and facilitators, and letting students discover things for themselves.¹¹ This type of learning is said to be active-based, as it puts more responsibility on the learners. Within the framework of Cameroon, the Competency Based Approach (CBA) follows this setting.

According to Montessori, the usefulness of discovery can be seen within the context of a well prepared environment. This refers to the classroom environment designed to provide children with the materials they are cognitively ready to explore and use to develop their skills. This is the same view that John Dewey perpetuates in his thoughts when he emphasized on the active participation of the child in the process of learning. For Montessori, when placed in the right environment, the child learns to handle the spade and the hoe, hammer, in fact tools of all trades. These activities led him to count, measure, weigh and compare objects with which he deals. He judges distances, learns and observes and draws accurately the things he observes. This to her is the fundamental principle of education.¹² All these aspects are relevant in our educational setup today. Since the classroom knowledge is easily forgotten because it is theoretical, it is important to include life experiences in the educational process.

In the context of curriculum organization in Cameroon, learner's curiosity is being encouraged through which they arrive at discovered truths instead of imposed ideas. The organization of primary, secondary and higher institutions of learning curricular include experiences that go along the theoretical /practical basis of learning. For example, the study of Geography goes on fieldtrips in industries, mountains, lakes, and sea sides among others. This makes learning more interesting and learners generally retain knowledge gotten through such experiences theoretically. This goes the same with the science subjects such as biology, chemistry and physics which require laboratory experiments for learning to be effective and

¹¹Conway Judith, Educational Technology's effect on Model of Instruction, <http://copland.udel.edu/conway.com> 1997

¹² Frederick Eby, *The Development of Modern Education*, 2nd ed., New Delhi, Prentice-Hall of India Pvt, 1964, p.356

efficient. As such, it is important that when designing the curriculum, the importance of discovery-based learning should be greatly considered. It is thanks to Montessori and other advocates of discovery based learning such as Rousseau and Dewey that we can boast of this today.

5.2. Promoting a learner centered curriculum

Curriculum is a group of courses and other planned opportunities or activities which students have under the guidance of a school.¹³ The main problem Montessori saw in the works of some educators before her was their prescription of the curriculum without regards to the needs of the child. She advocated for a curriculum which is based on the natural, spontaneous development of the child. This insistence on the need to design a curriculum that corresponds to the spontaneous development of the child was indeed a radical change in educational thought. The Montessori curriculum is an integrated thematic approach that ties the separate disciplines together into studies of the physical universe, the world of nature, and the human experience. The curriculum evolved as a result of close observation of the children and their needs. Activities and materials were designed to be practical as well as appeal to the developmental level of the children. The curriculum addressed the sense, motor, language, writing, reading and moral development. According to Montessori, the child's mind differs from time to time and the educational system must cater for these differences.¹⁴ In other words, "the structure and content of education should be determined by the child's needs, not by what the society thinks is appropriate for children to know..."¹⁵ This shows that the curriculum prescribed by Montessori is supposed to take into consideration the essential needs of the students rather than speculate on what is generally held. Since the child is considered in relation to the stages of development, Montessori for each stage of development proposes the culmination of important biological, physiological, social, emotional, spiritual, personality and language changes for which the curriculum has to be driven towards. Montessori's prescribed curriculum is divided into four main areas, which include; practical life work (everyday living skills), sensorial exploration, language, culture and mathematics.

With regards to practical life work, Montessori sees it as involving materials and activities that will capitalize the young child or the student's natural desire to learn real life

¹³ Leke Tambo, *Principles and Methods of Teaching*, 2nd ed. Cameroon, Printing Press Buea, 2012, p.173

¹⁴ Maria Montessori, *The Absorbent Mind*, New York: Holt, Reinhart and Winston, 1971, p.18-20

¹⁵ Chatten-MacNicholas, *The Montessori Controversy*, Albany: Delmar Publishers Inc, 1992, 9.37

skills and to become capable and independent member of a community.¹⁶ One of the main aims of practical life exercises is to make a link between the home and the new environment which is the classroom. This is done by representing tasks and activities which children may already be familiar from their home environment. Practical life exercises include care of the self and care of the environment. Some of these include food preparation, dressing, grooming, hand washing, cleaning, gardening, manners and social interaction among others. It serves as a source of knowledge through real experiences of how to accomplish life skills in a purposeful way. These activities will help children to become self-confident, independent and also prepare them for other aspects of learning.

With sensorial exploration, Montessori believes that nothing comes into the mind except through the senses. The purpose of integrating sensorial activities in the curriculum would be to help the child in his efforts to sort out the many varied impressions given by the senses. They focus on developing learner's ability to understand and adapt to their learning environment. She proposes the use of a series of sensory learning materials in which each material isolates a single sensory experience, offering and engaging puzzle like activities. The sensorial materials is described by Montessori as "materialized abstractions" guiding children's observation as she affirms;

It provides a child with color, size, shape, smell, and noise in a distinct, tangible, and orderly graded manner that permits him to analyze and classify these qualities. ... The material opens up to [children's] intellects paths that would otherwise be inaccessible at their tender age.¹⁷

For language, materials are designed to enhance vocabulary and to explore both spoken and written language. Language exercises focus on increasing the learner's listening skill, comprehension and vocabulary. Skills required for reading, writing and oral language are developed.

For culture, Montessori focuses on teaching every learner to experience their place in the world and gain an appreciation and respect for individual differences. The culture curriculum incorporates a wide range of subjects such as Geography, Botany, Zoology, History, music and Arts. It is through this that learner's gain an understanding of their community, the world and how to interact in it. Learning diversity is an important aspect of the

¹⁶ Angelina Stoll Lillard, "Preschool children's development in classic Montessori, supplemented Montessori, and conventional programs", in *Journal of School Psychology*, 2012, 50, p.379-401

¹⁷ Maria Montessori, *From Childhood to Adolescence*, New York, schoken, 1948, p.176-177

cultural curriculum. Appreciating music and art is also one of the major aims of this area of the curriculum.

Mathematics creates the need for hands-on materials that make abstract concepts concrete and accessible to the learners. Children are taught how to count, identify, match numbers, relate decimal quantities and symbols among others.

Generally speaking, the Montessori curriculum provides scaffolded support to enable students to engage with the required materials successfully.¹⁸ The curriculum is learner centered and designed to foster self-confidence and independence in learners by according them the freedom they need to be able to explore their environment and learn through hands-on experiences. It assists learners in developing critical thinking abilities, problem-solving skills and designed for each learner's specific development. Since Montessori designed a curriculum based on the developmental needs and interests of learners, there is usually no fixed set of lessons or series of workbooks. Lessons and other activities linked to the curriculum are flexible and can be changed when need be so as to match with the needs at a time.

Also, this learner-centered curriculum is also seen in our contemporary schools in what is called "hidden curriculum". Hidden curriculum is that part of the school curriculum that is not documented and not seen. It deals with skills that learners acquire on their own without even being conscious of such in the school milieu. These aspects enable the children to learn certain things that are neither prescribed on their timetables nor taught by the teachers. Children learn many things just by observing the way teachers dress, communicate with each other and relate to their duties. All these help in the spontaneous growth of the learner in both the natural and social dimensions. In planning the curriculum while being guided by Montessori's ideas, the planners do not begin by asking the question; what subject shall be included in the curriculum? They begin by finding out the interest and needs of the learners, from which they design the various subject matters of the different disciplines to meet these needs and interests. Through the curriculum policy in Cameroon, the notion of learner centered curriculum is taken seriously. Looking at the co-curriculum for example which is made up of school activities such as games, club activities, choral activities among others. These activities usually take place outside the four walls of the classroom or even the school vicinity. These help to develop skills of social interaction and build up talents in learners irrespective of their age.

¹⁸ Educational scaffolding is a teaching method that enables a student to solve a problem, carry out a task, or achieve a goal through a gradual assistance. According to Lev Vygotsky, the proper way to test young students was to test their ability to solve problems both independently and with the help of an adult.

Moreover, Montessori had earlier discovered that the young learner is capable of concentrating for long hours on activities that capture his spontaneous interest. She insisted on the importance of a child's exposure to and relationship with the environment as a stimulus for brain development. She affirmed;

if the child, from birth onwards has to create his personality at the expense of his environment, he must be brought into contact with the world... he ought to take part in it... to be in touch with the life of adults, if he is to adapt himself to the environment, he ought to take part in the public life and to be a witness to the customs that characterize his race.¹⁹

In this light, the organization of schools today should take bearing from the homes and surrounding environment so as not to present to the child (learner) unreal life situations which may be alien to him. Montessori is very pertinent when she views the child as the heart of all educational activity. For this reason, the child or the learner in general should be accorded the maximum care and respect which cannot come by imposing on him but by relating to the environment.

5.3. Redefining the role of the teacher in the educational process

Traditionally, the training of a teacher lays emphasis on equipping he or she with teaching methods and skills for 'instruction'. They are taught how to arouse and hold the interest the learners, how to prepare and deliver lessons, how to maintain class discipline and so on. Such training is based on the assumption that the teacher is the more active partner in the teaching/learning process and the learners are more passive. The teacher is regarded here as the chief medium through which learners grow in knowledge, culture and character. Here, it is the teacher who is free to move about at will, to talk or be silent as she chooses, to take initiatives and to select task to be given to the learners at any given moment. Learners on their part are expected to follow, listen, to be still and to work at the will of the teacher. One of the educational principles Montessori insisted on was the necessity of reversing this afore mentioned arrangements, not suddenly and never completely though. But her insistence was that the learner should increasingly become the more active partner and the teacher more passive.²⁰ Since Montessori's goal was to foster the child's independence, free choice and make way for spontaneous development of human potentials, she saw the need to redefine the role of the teacher or for what she called transference of roles in the educational process. Montessori

¹⁹ Maria Montessori, *Formation of Man*, Oxford, England: Clio Press, 1989, p.91

²⁰ Emily Standing, *Maria Montessori: Her Life and her Work*, New York, American Library, 1957, p.281

often quoted the words of John the Baptist (spoken in reference to the messiah) “He (learner) must increase while I (teacher) must decrease.”²¹

5.3.1. Preparing a suitable learning environment

The teacher’s first task is to prepare the environment which will promote maximum development of each individual learner’s potential. Since the teacher expects all his learners to be orderly, “...the teacher must be well cared for and well dressed. She must be clean and tidy and form part of the attractiveness of the environment.”²² The teacher to this effect has to create a learning environment that is suitable to meet the urge to learn and understand. The key responsibility here is to design, organize and prepare an appropriate social and cognitive environment for all learners.²³ She wrote to this effect:

*...Knowing that from the environment the cure will come, here lies the attraction that will polarize the will of the child. The didactic material must always be beautiful, shining and in good repair,.. The teacher as part of the environment must herself be attractive, preferably young and beautiful, charmingly dressed, scented with cleanliness, happy and graciously dignified. This is the ideal, and cannot be perfectly reached, but the teacher who presents herself to the children should remember that they are great people, whom she owes understanding and respect.*²⁴

By this teacher today should learn to organize the environment in an orderly and presentable manner which will entice his/her learners to absorb knowledge from it. Huxell said; “authentic Montessori teachers view the classroom each day, each year as fluid and ever-changing”.²⁵ In this light, the teacher responds to these changes with the physical preparation of the classroom environment through materials and a flexible curriculum. In this light, Montessori saw the teacher as a dynamic link between the prepared environment and the learners. To effectively carryout this role of a dynamic link, the teacher needs qualities such as patience, observation, tact, experience, charity and sympathy.²⁶ According to Mooney, Montessori urged teachers not to interfere with the child’s patterns and pace of learning. She thought it was the teacher’s job to prepare the environment, provide appropriate materials, and then step back and allow time

²¹ Idem.

²² Maria Montessori, *The Child, Society and World, Speeches and writings of Montessori*, Oxford, England: Clio, 1989, p.7

²³ Nancy Rambusch and John Stoops, *The authentic American Montessori school: A guide to the self-study, evaluation and accreditation of American schools committed to Montessori education*, New York, American Montessori Society, 1992, p.38

²⁴ Maria Montessori, *Education for a new world*, Adyar, Madras, India: Kalashretra Publications, 1946, p.104

²⁵ Huxell Alexa, “Authentic Montessori: The teacher makes the difference”, in *Montessori Life*, vol.25, issue 2, 2013, p.32-33.

²⁶ Emily Standing, *Maria Montessori: Her Life and her Work*, op.cit., p.283

and space to experiment. Open ended scheduling, with large blocks of time for free work and play, is part of Montessori's legacy.²⁷

5.3.2. Limiting interference and setting the child free

Once the environment has been prepared, the teacher needs to allow the child to explore this environment. The teacher must have faith in the child who will reveal himself through work.²⁸ The teacher should know that he/she is not supposed to work like the servant to the child. He/she (learner) must be left to act for himself so as to find full concentration and understanding.²⁹ The classroom that the teacher sets is known for providing an atmosphere of choice and independence. As Powell states; "...Montessori teachers must hold loosely to their ideas of the sequences of curriculum children should be learning at particular ages, and be prepared to allow children to explore personal interests horizontally when the joy of discovery sweeps over them".³⁰ Montessori goes further to assert that a good teacher must know when to intervene and when not to as she affirms; "the general rule is that the teacher should not intervene when she finds the child engaged in some spontaneous activity which is orderly and creative. She must respect what we have called the 'work' of the child in the broadest sense."³¹ This means on the other hand that, the teacher has the right to intervene or caution the child who is not doing anything in particular and when he or she is disturbing the neighbor. The ability to know when to intervene and when not to comes only with the attainment of a certain spiritual level.³² This does not mean that the teacher should allow his or her class entirely to the learners because this will definitely lead to chaos. Instead, the teacher's role is to guide the learners to work independently for it is from this that we can see concentration. This is seen clearly as Montessori wrote:

*After the children concentrate, it becomes really possible to give them freedom. The teacher must...give them material- an abundance of material because once these children concentrate, they become very active and very hungry for work...The teacher must see that there are many possibilities for work in the environment.*³³

²⁷ Carol Garhart Mooney, *Theories of Childhood: An Introduction to Dewey, Montessori, Erickson, Piaget and Vygotsky*, Saint Paul, Redleaf Press, 2000, p.29

²⁸ Maria Montessori, *Education for a new world*, op.cit, 104

²⁹ Ibid., p.106

³⁰ Mark Powell, "Is Montessori ready for the Obama generation"? in *Montessori Life*, vol.21, issue 2, 2009, 18-29, p.25

³¹ Emily Standing, *Maria Montessori: Her Life and her Work*, New York: American Library, 1957, p.289

³² Ibid., p.292

³³ Maria Montessori, *The 1946 London Lectures*, Amsterdam, the Netherlands, Montessori-Pierson Publishing, 2012, p.232

Within the context of our contemporary society, this role of the teacher can be possible when he or she engages the learners in practical activities. Through practical work, students become so concentrated that the teacher can fully give them the freedom to work while he just watches and guides.

More so, once the teacher has succeeded to get his learners to concentrate in exercises of practical life, he should withdraw to the background to avoid interfering. He should instead observe the children work and make sure that the environment is in a way that protects the child's absorption of work. She gives teachers the task of carefully observing their learners' progress after having shown them what to be done. Montessori compares a teacher to a humble labourer who works on building up each learner's freedom. When she talks of setting the learners free and limiting interference, she does not advocate for the complete abandonment of learners to be by themselves. She was of the view point that a good teacher must make his or her preparations, and at the same time duly observe the limits of her interference by leaving the child to choose his work.

5.3.3. Evaluating his/her learners

Montessori did not support the idea of tests as commonly conceived by many (example, typical multiple choice question). She confirmed this while affirming: "how can the mind of the growing individual continue to be interested if all our teaching is around a particular subject of limited scope, and is confined to the transmission of such details of knowledge as he/she is able to memorize?"³⁴ Does this mean that Montessori is against evaluation in education? Definitely no, because she attests to the fact that teachers must evaluate their learner's progress but specifically in a way that is different from the traditionally held method. Most of her writings suggest that teachers should evaluate their learners in at least two ways; first, the teacher observe the students intensely, noticing what they are doing, in the course of this, the teacher might notice a learner using materials incorrectly. By means of correction, the teacher should make sure that each time a new material is presented to them, the new technique on how to use them correctly is shown to them so as to avoid errors. Her belief in this context is that humans under normal conditions have a tendency towards virtuosity; that is they gain pleasure out of striving towards perfection.³⁵

³⁴ Maria Montessori, *From Childhood to Adolescence*, Oxford, England, Clio Press, 1999, p.6

³⁵ Angelina Stoll Lillard and Virginia McHugh, "Authentic Montessori: The Dottoressa's view at the End of Her Life, Part II: The Teacher and the Child", in *Journal of Montessori Research*, vol.5, issue 1, 2019, p. 22

Secondly, the teacher can evaluate the progress of their learners by checking via observation or discussion their knowledge prior to or while she is presenting the new lesson. This is known today as the test for previous knowledge which is very essential in the teaching/learning transaction. With this, it is expected of the teacher that when presenting a new lesson, he must find out what the learners already have in mind in order to facilitate the understanding of the new lesson. This idea is best suited within the context of the Competency Based Approach today where the verification of prior knowledge is done through corrections of assignments, the teacher as a facilitator recalls the title of the last lesson, proceeds to ask questions and to verify if learning took place and also to relate the prior lesson to the new one.

5.3.4. Training teachers to meet the task

According to Montessori, teaching following her method requires self-study and even sometimes a fundamental change. For her, a Montessori teacher must be created anew, having rid herself of pedagogical prejudices.³⁶ The teacher must be trained to intelligently use his/her capacities so as to make learners acquire skills by themselves. The spiritual preparation of the teacher plays a vital role here as Montessori affirms;

A teacher would be deceiving himself if he thought that he could be well prepared for his mission only by acquiring certain knowledge. Because he must, above anything else, create within himself certain qualities of moral character We must stress the need for the teacher to prepare himself internally, examining himself thoroughly in order to rid his soul of any defects which might become a hindrance in dealing with a child. ... To be educators, we do not have to become "perfect," devoid of any weakness. A person constantly preoccupied with perfecting themselves inwardly may remain unaware of those defects which prevent them from understanding the child. So we have to learn and to allow ourselves to be "guided." We have to be educated if we want to educate³⁷

This shows that the most important part of the teacher is that he or she should go through spiritual and moral preparations. This is necessary before one is fit to be entrusted with the care of children. In the same line of thought, Emily Standing in explaining Montessori's teachings affirms that; "the first thing a would be teacher has to acquire is what we might call "spiritual technique" ...something akin to religious conversion. For it will involve a 'transvaluation of values.'³⁸ The teacher must see the soul of the learner as something so rich and pure as well as

³⁶ Maria Montessori, *Education for a new world*, op.cit, p. 103-104

³⁷ Maria Montessori, "Spiritual Preparation of the Teacher," in the *Rivista Montessori of September/October 1932*, translated by Roland A. Lubienski, 1999.

³⁸ Emily Standing, *Maria Montessori: Her Life and her Work*, op.cit., p.277

precious enough so as to be able to support it to develop its full potential. The teacher “has to root out from his heart the old crust of anger and pride, to become humble and henceforth become clothed with charity. These are the inner qualities he must become endowed with ...”³⁹ According to Montessori, such preparations should be the first step in the training of every teacher nor matter his or her nationality or creed.⁴⁰ He or she must purify her heart and render it burning with charity towards the child. The teacher should be taught how to begin by studying his or her own defects before seeking to correct that of the learners. She affirms to this effect that; “first remove the beam from your own eye and then you will see clearly how to remove the speck from the eye of the child.”⁴¹ Once the teacher has made this act of humility, he will no longer look upon himself as someone whose duty it is to mould the growing personalities in her charge by the force of her own. Rather, he must regard himself “as one who serves.”⁴² The teacher should always keep her imagination alive while freeing herself from preconceived ideas concerning the level at which the learners maybe.

Anne Burke Neubert in in her book entitled *A Way of Learning* listed the following elements as constituting the special role of a teacher in the Montessori setting;⁴³

- Teachers are the dynamic link between children and the prepared environment.
- They systematically observe their learners and interpret their needs and progress.
- They are constantly experimenting, modifying the environment to meet their perceptions of each learner’s needs and interest and objectively noting the results.
- They prepare an environment meant to facilitate children’s independence and ability to freely select work that they find appealing, selecting activities that will appeal to their interests and keeping the environment in perfect condition.
- They respect and protect their learners independence. They must know when to step in and set limits or lend a helping hand, and when it is in a child’s best interests for them to step back and not interfere.
- They facilitate communication among children and help them to learn how to communicate the thoughts to adults.

³⁹ Ibid.

⁴⁰“Role and Responsibility of Teacher in Montessori”, 2018, Retrieved from <https://www.paperap.com> April 8 2023.

⁴¹ Maria montessori, *The secret of Childhood*, Random House Publishing group, 1972, p.149

⁴² Emily Standing, *Maria Montessori: Her Life and her Work*, op.cit., p.277

⁴³ Ann Burke, *A Way of Learning: A Montessori Manual*, rev. ed., Xavier University Press, 1973.

- They model desirable behavior for the learners, following the ground rules of the class, exhibiting a sense of calm, consistency, grace and courtesy while demonstrating respect for all.
- They are peace educators consistently working to teach courteous behaviors and conflict resolution skills.
- They are diagnosticians who can interpret patterns of growth, development and behavior in order to better understand the learners and make necessary referrals and suggestions to parents.

By this, for this mission to be accomplished today, the teacher has to be trained from the spiritual, moral, and physical while transforming, cultivating humility and patience, sympathy and charity.⁴⁴ To summarize the perspective from Montessori's idea of training teachers to meet the educational needs of our time, she affirmed:

This method [of education] not only produces a reformed school but above all a reformed teacher, whose preparation be much deeper than the preparation traditionally offered. [The] mission is to be a scientist and a teacher: a teacher in the same sense of an observer who respects life, drinking in the manifestations and satiating [the] spirit. Hence it greatly raises the personality of the teacher.⁴⁵

Taking from the above, Africa and Cameroon in particular should follow this and integrate the necessary skills in training its teachers so as to meet the needs of the contemporary society. This is because the teacher is no longer seen as the sole possessor of knowledge as was the case in the traditional set up. Learners too have a great role to play which requires that teachers be well prepared to this effect.

5.4. Education as a means of promoting world peace

Montessori living through a period of great wars, tyranny, and oppression, grappled with fundamental questions of man and society, and asked herself how education might best enhance our hopes for a world of peace. She saw the possibility of a new kind of education: an education which would begin at birth, an education which rather than merely helping children adapt to what presently exists, rather than helping them accommodate, would allow for the

⁴⁴ Angelina Stoll Lillard and Virginia McHugh, "Authentic Montessori: The Dottoressa's view at the End of Her Life, Part II: The Teacher and the Child", in *Journal of Montessori Research*, vol 5, (1) 2019 p.23

⁴⁵ Maria Montessori, *The 1913 Rome Lectures*, Amsterdam, The Netherlands: Montessori Pierson Publishing, 2013, p.276

formation of individuals who are adaptive to human concerns, individuals with critical insights and awareness necessary to penetrate ideology and ensure a more responsive culture.⁴⁶ Inspired by Montessori's education for peace, there is need for our the contemporary world to revisit the goals of education, such that it be can be one which contributes to the formation of man and his personality as she has advocated for. For 'the child who has never learned to act alone, to direct his own actions, to govern his own will, grows into an adult who is easily led and must always lean upon others'.⁴⁷

According to her, a peaceful society cannot be built on a foundation that does not seek to integrate body, mind, and spirit. What the world needs and is *whole* men and women that is, individuals who can work with their hands, their heads, and their hearts.

Montessori is known to have spoken frequently at UNESCO⁴⁸ about how a just, peaceful and equitable approach to education was the key to achieving world peace. In her 1951 speech she stated;

*In my opinion there is only one remedy by which future generations can be protected against the woe which burdens us: let us forget the problems and concentrate on the person!. Remember that people do not start at the age of twenty, at ten or at six, but at birth. In your efforts at solving problems, do not forget that children and young people make up a vast population, a population without rights which is being crucified on school benches everywhere, which for all that we talk about democracy, freedom and human rights is enslaved by a school order, by intellectual rules which we impose on it... The child population is the only population without rights. The child is the neglected citizen. Think of this and rear the revenge of this populace. For it is his soul that we are suffocating. It is the lively powers of the mind that we are oppressing, powers which cannot be destroyed without killing the individual, powers which tend either towards violence or destruction, or slip away into the realm sickness.*⁴⁹

Montessori knew that children are the future and a future without war and suffering must be constructed through the appropriate education of these children. She goes further to affirm that "let us concentrate on the neglected age, on children at the pre-school age, and we shall set up a landmark to the millennium, indicating a new path of justice and salvation in international

⁴⁶ Annette Haines, "A Science of Peace" in *AMI Journal*, 2020, p.178

⁴⁷ *Ibid.*, p.179

⁴⁸ United Nations Educational, Scientific and Cultural Organization.

⁴⁹ Speech given by Maria Montessori at the first meeting of the Governing Board of the UNESCO on June 19 1951.

endeavors”.⁵⁰ She gives a clear meaning of the kind of peace education should effect by affirming that;

*When we speak of peace, we do not mean a partial truce between separate nations, but a permanent way of life for all mankind. This goal cannot be attained through the signing of treaties by individual nations. The problem for us does not lie in political action to save one nation or another; our efforts must be devoted, rather, to solving a psychological problem involving all mankind, and as a consequence acquiring a clear conception of the kind of morality necessary to defend humanity as a whole.*⁵¹

In Montessori’s point of view, promoting world peace through education starts with an approach to discipline classroom management, rules and building of cordial relationships between learners. Learners are being taught to be in control of themselves instead of needing to be controlled by an outside force.⁵² Montessori preached against parents as well as teachers giving harsh orders at home and in school. This explains why she took a radically different approach to discipline. The ground rules of every classroom are respect for ones' self, respect for others and respect for the environment. These principles are applicable at all levels of education and can only change orientation with respect to the learner’s age and educational level at a time. For a seven year old primary school pupil for example these rules might mean they should always be on guard in the classroom, protecting themselves, not hitting others and always cleaning their classes. For a university student of about twenty four years old, these rules take a deeper meaning. They may imply respecting ones’ self by doing work that serves as a means to an end and not an end in itself, respecting others by standing up for the right of the oppressed groups and respecting the environment by taking part in the fight against climate change.

According to Montessori, for peaceful societies to be sustained, each day in school, a class should begin with a “peace pledge”.

*I pledge allegiance to the earth and to all life that it nourishes, growing things, all species of animals and all races of people; I promise to protect all life on our planet, to live in harmony with nature and to share our resources justly, so that all people can live with dignity in good health and in peace.*⁵³

⁵⁰ Speech given by Maria Montessori at the first meeting of the Governing Board of the UNESCO on June 19 1951.

⁵¹ Maria and Mario Montessori, “Peace Through Education”, in *AMI Journal* 2013.

⁵² “What is Montessori Peace Education?” Retrieved from <https://www.montessorifortoday.com> April 10 2023.

⁵³“The Montessori Peace pledge” Retrieved from <https://healthybeginningsmontessori.wordpress.com> April 10, 2023.

This peace pledge shows that for education to promote peace does not mean it should have one lesson or activity in the curriculum that is to be taught in specific hours of the day but that it should be the backbone of every aspect of the learning environment. As the saying goes “practice makes perfect”, when the learners are being taught at an early age good communication skill, relationship building and problem solving skills, empathy, interdependence, teamwork and advocacy and above all conflict resolution skills, the end result will be the grooming of adults that make the world a better place by promoting peace.

Maria Montessori was also adamant about the importance of having compassion and respect for all humanity:

*Let us in education ever call the attention of children to the hosts of men and women who are hidden from the light of fame, so kindling a love of humanity, not the vague and anemic sentiment preached today as brotherhood, nor the political sentiment that the working classes should be reduced or uplifted. What is first wanted is no patronizing charity for humanity, but a reverent consciousness of its dignity and worth.*⁵⁴

Montessori’s vision of education as an instrument for peace also seeks to promote the inner spiritual evolution of the child and the adult in order to produce a society that lives in harmony and in which one works in the service of “all mankind.” This because when a learner’s spiritual growth and awareness is abandoned during its formative period, he or she can grow up to become the greatest menace to his own survival.⁵⁵ According to Montessori,

*[Education] must be viewed first of all from the perspective of the development of human values in the individual, in particular his moral values, and second from the point of view of organizing the individuals possessed of these enhanced values into a society consciously aware of its destiny. A new form of morality must accompany this new form of civilization. Order and discipline must be aimed at the attainment of human harmony, and any act that hinders the establishment of a genuine community of all mankind must be regarded as immoral and a threat to society.*⁵⁶

Montessori saw humanity as the ‘most fundamental of our riches’, with energies, intelligence, creative spirit, and moral powers that must be cultivated and enhanced in order for societies to advance peacefully. The child has the natural potential to become an evolved human being, but the conditions in the environment are critical in assisting this evolution. Spiritual development

⁵⁴ Maria Montessori, *To Educate the Human Potential*, Adyar, Madras, India: Kalashetra Publications, 1961, p.27

⁵⁵ Mario Montessori, *Introduction to the Absorbent Mind by Maria Montessori*, Chennai: Kalakshetra publications, 2002, p.viii

⁵⁶ Maria Montessori, *Education and Peace*, Oxford: Clio Press, 1992, p.xiii

is regarded as the creation of a sound psyche, strong character, clear mind, and awareness of the individual's responsibilities for the betterment of humanity and society.⁵⁷

Montessori's vision for world peace lays emphasis on the spiritual preparation of every learner. This will help to build a strong, 'good' character and nurture a true understanding of oneself and his place and contribution to his society and the world at large.⁵⁸ Education has to aid mankind in the formation of a truly harmonious, well-adapted human being who wishes for the betterment of the world and mankind.⁵⁹ Montessori stressed the importance of nurturing the child throughout the four planes of development, during which different aspects of spiritual development take place. Experiences of true relationships in different forms of society are, in Montessori's view, an essential principle of education. She says, 'to teach details is to bring confusion' but 'to establish relationship between things is to bring knowledge'⁶⁰

Montessori encourages the teaching of global citizenship as a way of fostering both a specific set of knowledge and a particular set of values in students and teachers as well. The specificity of this global citizenship might include addressing the causes of war and poverty, communication and other conflict resolution skills, disarmament or so on.⁶¹ The values would usually include the appreciation for diversity and nonviolence. According to Hughes,

*Children come out of Montessori education understanding there is a richness and diversity to human culture and there's also a sameness. We all want love; we have families, we care about people, we do not want to live on a barren planet and we need to respect everyone's pursuit of these things. That's a basic but critical lesson of socialization, and it's something children get very well in Montessori.*⁶²

This leads to the fostering global citizens who would exhibit values of and actively work for peace. With this, citizens are less likely to be manipulated and misled into a war not in their interests and that of the society in which they find themselves. As Montessori wrote, "any education that rejects and represses the promptings of the moral self is a crime"⁶³

⁵⁷ Ruby Lau, "Montessori: A Spiritual Path" in *AMI Journal*, 2020, p.194

⁵⁸ *Ibid.*, p.196

⁵⁹ *Idem.*

⁶⁰ Maria Montessori, *From Childhood to Adolescence*, Oxford: Clio press, 1996, p.64

⁶¹ Cherly Duckworth, "Teaching peace: a dialogue on the Montessori method" in *Journal of Peace Education*, 3(1), 39-53, 2006, p.42

⁶² Steve Hughes "Montessori: Education for the 21st century" in *Montessori Australia foundation*, issue 2, 2014.

⁶³ Maria Montessori, *Education and Peace*, op.cit, p.xiv

More so, the building of learners who have passion for peaceful societies is developed in Montessori's idea of Cosmic Education.⁶⁴ Cosmic education refers to the philosophy coined by Montessori which says that all things are interconnected in this universe and that each living thing has a specific role or cosmic task to carry out. For the elementary child, Montessori created Cosmic Education as a way to teach peace through the understanding of human needs, the interdependency of life and the earth, the interrelatedness of all subjects, the unity of humanity and the gratitude to all of the past peoples who have created the basis for our culture.⁶⁵ According to Montessori, the Cosmic Education curriculum is integral to helping the child develop his identity and finding a place in the world. She maintained that education holds the key to promoting children's sensitivity to and appreciation of a multicultural world. It can be understood that this appreciation she talks of starts with an understanding of their own culture and community. In turn this understanding will result in a worldview conducive to understanding and working with people of other countries and cultures.

According to Camillo Grazzini, "Cosmic Education results in creative attempts to lead a new and different kind of human life, with responsible participation in all natural and human phenomena."⁶⁶ By understanding his cosmic task, his contribution to the preservation and betterment of the world, with the ultimate goal of creating true peace the child is empowered.⁶⁷ Grazzini goes on to explain that through cosmic education children develop a cosmic vision which "encompasses both space and time; in other words, the children learn to understand the world both in its evolutionary development and in its ecological functioning." In the same line of thought, others have described it as the purpose of cosmic education as; "the consequence is the activation of an education tending toward universal cooperation, toward the affirmation of democracy, of peace, toward the construction of a new world."⁶⁸ Rather than seeing himself as a cog in the machine, the child sees himself as an individual, critically placed in a time and place where he has a positive role to play.⁶⁹

⁶⁴ Cosmic education is a philosophy coined by Maria Montessori which says that all things in the universe are interconnected and that each living thing has a specific role or cosmic task to carryout. It describes the role of education as comprehensive, holistic and purposeful.

⁶⁵ Judith Cunningham, "From Cosmic Education to Civic Responsibility" in *The NAMTA Journal*, vol.24, no.3, 2017, p.21

⁶⁶ Grazzini Camillo, "Maria Montessori's Cosmic Vision, Cosmic Plan, and Cosmic Education in Human Development: Passages to Montessori Adulthood", in *AMI Journal*, 2020, p.32– 42.

⁶⁷ Ibid.

⁶⁸ Rossella Raimondo, "Cosmic education in Maria Montessori: Arts and sciences as resources for human development", in *Studi Sulla formazione*, Vol.21, 2018, p.249.

⁶⁹ Judith Cunningham, "From Cosmic Education to Civic Responsibility" in *The NAMTA Journal*, vol.24, no.3, 2017, p.25

In an attempt to elaborate on the contributions of Maria Montessori's educational ideas to educational progress in the contemporary world, we have come across the establishment of education as a progressive enterprise that is a step by step process, this guides educational stake holders to know when and how to respond to the needs of the learner at each particular stage in the most appropriate way. We have also seen the promotion of a learner centered curriculum which always puts the needs of the learners at the forefront, the role of the teacher has equally be profoundly redefined to suit the goal of education according to Montessori which is that of the development of human potentialities. Above all, we have understood that kind of education advocated for by Montessori can be a great means to maintain global peace. From this, the popular quote of Montessori that averting war is the work of politics, while establishing lasting peace is the work of education continues to serve its purpose today.

CHAPTER SIX

AN APPROPRIATION OF MONTESSORI'S VIEWS IN CONTEMPORARY TIMES THROUGH THE COMPETENCY BASED APPROACH TO EDUCATION

It has been noted that as the world continuously evolves, there is an unavoidable need to top-up every sector in the economy to meet the challenges of the time. As the philosopher Hegel rightly affirmed that every philosophy is the daughter of its time, the Competency Based Approach (CBA) has acquired popularity recently in the academic community. This is due to the growing need for education to cultivate in every individual the ability to live and share with others while allowing him to develop as an autonomous, free, critical and creative being. In fact, it is no longer in style to impart knowledge or apply specialized knowledge through instruction alone. In line with Montessori's view of education as a means of developing human potentialities, the CBA has been seen as a way of continuing her legacy. In this chapter we shall dwell on the general overview of the Competency Based Approach in Education, its implementation and progress in Cameroon, the challenges faced and the possible way forward.

6.1. The Competency Based Approach in Education (CBA)

Some scholars posit that rote memorization of facts and hierarchical school or classroom patterns are no longer suitable for the competitive global market, where the skills of inquiry and problem solving to address rapidly-changing environments are needed.¹ The Competency Based Approach (CBA) has gained popularity recently in the academic community. In fact, it is no longer in style to impart knowledge or apply specialized knowledge only through instruction. It is essentially required that students encounter challenging real life situations that they must resolve. It should be noted that the traditional systems of education narrowly prioritize and measures academic skills, often at the lower levels of Bloom's taxonomy.²

According to Savage, the Competency Based Approach is a functional approach to education as it emphasizes life skills and evaluates mastery of skills, necessary for an individual

¹Vavrus Frances, Thomas Mathew and Bartlett Lesley, *Ensuring Quality by Attending to Inquiry: Learner-Centered Pedagogy in Sub-Saharan Africa*, Addis Ababa, UNESCO: International Institute for Capacity Building in Africa, 2011.

²The lower levels of Bloom's Taxonomy here include memorization, comprehension and application which lays emphasis on the ability to Remember (recall facts and basic concepts) and to understand (explain ideas or concepts).

to function proficiently in a given society.³ The Competency Based Approach ensures that students can be able to apply academic knowledge and skills to new contexts and also become an adept problem-solvers and independent learners. Culture, pedagogy and structures in this approach are designed to develop learner's ability to construct knowledge by themselves and engage them in deeper learning that provides opportunities to engage in real-world problems. Using this method, the learner will not only gain knowledge but also be able to use it meaningfully in a variety of social, professional, and even personal settings. As a result of this transformation, teaching methods have undergone significant shift as teachers now serve as genuine intermediaries between students and knowledge.⁴ The Competency Based Approach works upon a growth mindset which asserts that learning and performance can improve with effort. It demonstrates belief that all children can learn with the right mix of challenges and support.⁵ In the CBA, the focus is to enable learners to master the knowledge, skills and attitudes needed for the world of employment and general life. CBA addresses what learners are expected to do in a class situation, how learner can use acquired knowledge to solve real life situations. According to Docking, a Competency Based Approach is;

*(...) organized not around the notion of subject knowledge but around the notion of competency. The focus moves from what students know... to what they can do with it. The focus on competencies or learning outcomes underpins the curriculum framework and syllabus specification, teaching strategies, assessment and reporting.*⁶

Roegiers justifies the fundamental role of the CBA by presenting three challenges that it should address; first of all the proliferation of knowledge which invalidates all pedagogy based solely on the transmission of knowledge, secondly, the increasingly recognized need to provide students with meaningful learning leading to authentic applications, and thirdly combating school drop-out.⁷ To this effect, he outlined three fundamental objectives of the Competency Based Approach which are; in the first place, to emphasize the competencies that the students must master at the end of each school year, rather than stressing what the teacher must teach. Secondly, to organize the learning outcomes in the best way so as to bring their students to the

³ Lynn Savage, Literacy through a competency-based education approach, in JoAnn Crandall, Eds., Joy Kreeft, *Approaches to adult ESL literacy instruction*, Mchenry, IL: Center for Applied Linguistics and Delta Systems Co., Inc, 1993.

⁴ Obono Edou Yolande and Peter, "Competency-Based Approach and Writing Skills Development in Cameroon Secondary Schools" in *International Journal of Scientific Advances*, Volume 4 Issue, 2023, p.205

⁵ Chris Sturgis and Katherine Cassey, *Quality Principles for Competency Based Education*, Vienna, VA: iNACOL, 2018, p.19

⁶ Jeffrey Docking, "Competency-based curricula: The big picture", in *Prospect*, vol.9, issue 2, 1994, p.16

⁷ The translation is ours, originally cited in Roegiers Xavier, *Une pédagogie de l'intégration : compétences et intégration des acquis dans l'enseignement*, De Boeck Supérieur, 2001.

level expected. Thirdly to entrust the responsibility for learning to the student who has to build his or her own knowledge through means made available by the teacher.⁸ In 2006, Weddel outlined the components of competency based approach to education as consisting of the following: An assessment of the learners' needs, the selection of the competencies, the target instruction, an evaluation of the competency attainment. According to him, these four components do not function in isolation. The approach starts with the assessment of needs of the students, moves to the selection of the expected competencies, then to the target instruction from where it moves over to the evaluation of the rate of attainment of the competence, and then back to the assessment of the needs. It is thus cyclical. Concerning assessment under the CBA, teachers are expected to use authentic assessment methods such as portfolios, classroom or field observation, projects, oral presentations, self-assessment, interviews and peer assessment. These authentic assessment methods are more useful for competence-based curriculum than other forms of assessment because they provide opportunity for students to demonstrate the competencies they have mastered in real life situations.⁹ This identifies how much and what kind of help a student needs to be successful.

According to Jean Houssaye, the teaching situation under the CBA can be defined as a triangle comprising three elements which are; knowledge, teacher and learner.¹⁰ All education is based on a special relationship between two of these three elements and the exclusion of the third with which each of the chosen elements must maintain contact. In his analysis, there are three processes; the first is the "teaching process", which prioritizes the teacher/knowledge relationship; the second process is the "formatting process", which prioritizes the teacher/learner relationship and finally the "learning process", which prioritizes the learner/knowledge relationship. Teachers are expected to use a variety of teaching strategies and resources that involve the learner, learners are expected to be active and participate during lesson so as to construct knowledge, skills and attitudes.¹¹ Through this approach the learners will not only acquire knowledge but will be able use it in a meaningful way and to tackle different situations in life, work and family, social and even professional situations. This reform

⁸Rogier Xavier, *L'école et l'évaluation : Des situations pour évaluer les compétences des élèves*, France : Edition De Boeck, France, 2004 as cited in Lilian F. Wiysahnyuy. "The Competency Based Approach in Cameroon Public Secondary Schools: Modes of Appropriation and Constrains", in *International Journal of Humanities Social Sciences and Education (IJHSSE)*, vol 8, no. 1, 2021, pp. 92-103.

⁹Bafon Richard, "Competency Based Approach as A Tool of Overcoming Learner's Misconceptions on The Difficulty in The Teaching and Learning of Statistics" in *International Journal of Research and Innovation in Social Science (IJRISS)* |Volume V, Issue I, January 2021, p.613

¹⁰The translation is ours, originally cited in Houssaye Jean, *La pédagogie : une encyclopédie pour aujourd'hui*, Paris:ESF, 1993

¹¹Ibid.

has brought about profound changes in teaching practices as the teacher becomes a true mediator between the learner and the knowledge.¹²

Within this scope, Auerbach listed eight key features of the CBA

- A focus on successful functioning in society: The goal is to enable students to become autonomous individuals capable of coping with the demands of the world.
- A focus on life skills: Students are taught just those skills required by the situations in which they will function.
- Task or performance-centered orientation: What counts is what students can do as a result of instruction. The emphasis is on overt behaviors rather than on knowledge or the ability to talk about a subject matter and skills.
- Modularized instruction: Objectives are broken into narrowly focused sub objectives so that both teachers and students can get a clear sense of progress.
- Outcomes which are made explicit a priori: Outcomes are public knowledge, known and agreed upon by both learner and teacher. They are specified in terms of behavioral objectives so that students know exactly what behaviors are expected of them.
- Continuous and ongoing assessment: Students are pre-tested to determine what skills they lack and post-tested after instruction to know if they have acquired the required skill. If they do not achieve the desired level of mastery, they continue to work on the objective and are re-tested. Program evaluation is based on test results and as such, is considered objectively quantifiable.
- Demonstrated mastery of performance objectives: Rather than the traditional paper and pencil tests, assessment is based on the ability to demonstrate pre-specified behaviors.
- Individualized, student-centered instruction: In context, level, and pace, objectives are defined in terms of individual needs; prior learning and achievement are taken into account in developing curricula. Instruction is not time-based, student's progress at their own rates and concentrate on just those areas in which they lack competence.¹³

¹² Lilian Wiysahnyuy. " The Competency Based Approach in Cameroon Public Secondary Schools: Modes of Appropriation and Constrains" in *International Journal of Humanities Social Sciences and Education (IJHSSE)*, vol 8, no. 1, 2021, pp. 92-103, p.93

¹³ Elsa Roberts Auerbach, "Competency-based ESL: One step forward or two steps back?", in *TESOL Quarterly*, vol.20, issue 3, 1986, p.414-415.

This leads to a change in responsibilities for both the teachers and the learners as opposed to the role each play under the traditional system. The new role of the teacher now consists in encouraging the learners to acquire the knowledge. In CBA, a teacher is supposed to switch from the role of an expert who transfers knowledge to a coaching role of facilitating and guiding the learning process. Since the CBA is a learner-centered approach, teachers are no longer seen as the sole possessors of knowledge, but facilitators and guides with the role of assisting their learners all through the path acquiring the necessary competencies. Still, they have to determine what and how well learners must perform, they give clear instructions and make sure that every learner understands the task.¹⁴ Teachers need to guarantee an individualized kind of instruction. This is because each learner under this approach is expected to learn at his or her own pace. They are also required to provide constructive feedback on how well learners are doing toward successful completion of tasks, they have to ensure an ongoing assessment.¹⁵ From the perspective of Lev Vygotsky's social constructivism theory, the teacher in CBA is a scaffold that supports the learner while he/she constructs knowledge. Learners are allowed to learn at their own pace as the case with Montessori's system and those individual skills they find challenging by practicing work on improving on them as many times as possible. Implementing the CBA demands a greater interaction between the educational institutions and society.

In applying the CBA as earlier mentioned, the learner becomes the center of the learning process. The learners to this effects needs to be more active in the teaching/learning process, they are expected to participate actively in acquiring the necessary skills, practice and perform the skills being taught. Moreover, he or she must be able to transfer the knowledge gained in school to pertinent contexts of use outside that is in real life. This means that the learner must be capable of suggesting ideas first, having the desire to know and learn, organize work using new technologies, assimilating new learning methods, and be in constant search for new information. CBA aims to inculcate in the learner responsible behavior, knowledge and competencies, necessary for meeting with the challenges of the rapidly changing technological world.¹⁶ School must cultivate in the child the ability to live and share with others while

¹⁴ Faiza Bader and Hacene Hamada, "Competency Based Approach between Theory and Practice" in *Revue Sciences Humaines*, vol.A, no.44, 2015, p.10

¹⁵ Ibid.

¹⁶ Gracemary Moluayonge and Sonnita Washi, "Assessing the Implementation of Competency Based Approach in Primary Schools in Cameroon" in *Asian Journal of Education and Social Studies*, vol.32, issue 4, 1-11, 2022, p.2

allowing him to develop as an autonomous, free, critical and creative being.¹⁷ In support of this, Sudsomboon identified seven important areas of Competency Based Approach to students which are; learners acquire experience and knowledge in their lives, curriculum designers provide an experience that will tap learners' values and ideas, learners experience new situations and match new experience with previous learning, learners distil new values and new knowledge, learners try out new behaviors and acquire new experiences and knowledge in both simulated and "real world" environments, learners continue to process experience and knowledge as basis of original knowledge and experience and learners apply new behaviors in the real world environment.¹⁸

6.2. The implementation and progress of the Competency Based Approach in Cameroon

Improving the quality of education for all Cameroonian children through the development of competence, creativity and innovation has been a priority for policy makers in Cameroon since independence. In 1995, an important Educational Forum involving all educational stakeholders was organized by the Ministry of National Education (MINEDUC) in Yaoundé. The overall objective of this gathering was to diagnose and seek appropriate solutions to the numerous problems that plagued the Educational System at the time. Prominent among these problems identified were; overloaded syllabuses and schemes, high rate of failure, the inability of students to deal with daily life problems, the mismatch between school graduates and employment demands among others. In short it was noticed that our educational system was to some extent inefficient and fell short of producing fully functional persons. It was therefore against this backdrop that the Objective Based Approach (OBA) which had characterized the educational system for a very long period witnessed a paradigm shift following the need to introduce a more effective and problem-solving approach. This effort culminated into the National Forum on Education whose recommendations were later formulated into the Cameroon education policy statement (law no.98/004 of 14 April 1998) to lay down guidelines for education in Cameroon. These guidelines prescribed that: *"The general purpose of education shall be to train children for their intellectual, physical, civic and moral*

¹⁷Obono Edou Yolande and Peter, "Competency-Based Approach and Writing Skills Development in Cameroon Secondary Schools" in *International Journal of Scientific Advances*, Volume 4 Issue, 2023, p.205

¹⁸ Sudsomboon Weerayute, "Applications of competency-based Education: In the context of Diversity and Change" in *The Journal of KMUTNB*, Vol. 20, No.2, 2010

development and their smooth integration into society bearing in mind the prevailing economic, socio-cultural, political and moral factors.”¹⁹

Section 5 of the 1998 Law laying down guidelines for education in Cameroon, spells out nine different articles of national policy which stipulate the training of citizens capable of performing developmental tasks in the cognitive, affective and psycho-motor domains. The nine articles highlight domains including national and international cultures, universal ethical values, family life, national languages, democratic culture, practice and other concerns, the cultivation of an ethos of work, creativity and related aspects, sports-cum-physical education and artistico-cultural concerns, hygiene and health education. In Section 25, the Law asserts: “The education provided in school shall take into account scientific and technological advancements and shall be tailored in terms of content and method to national and international economic, scientific, technological, social and cultural trends.”

In line with the vision of making Cameroon an emergent economy by 2035, the Ministry of Secondary Education for Cameroon (MINESEC) adopted reforms in August 2012 which consisted in aligning educational goals with the demands of a more skilled workforce. MINESEC explained that this new pedagogical innovation was aimed at “making sure that the learners [could] apply what they learn in class in real-life situations outside the classroom.” It was seen that the previous paradigm, the Objective Based Approach, was more focused on learners’ acquisition of knowledge instead of enabling them to use that knowledge to realize their potentials and to solve real-life problems. The new approach went through a trial period for two academic years (2012-2013 and 2013-2014) before its effective implementation began in Form I and Form II of the 2014-2015 academic year. This approach, which was to be progressively introduced into the education system was tailored to address urgent socio-economic realities. While the content remained essentially the same with slight modifications to reduce bulk and irrelevance, the teaching approach was a total paradigm shift from earlier practices. This paradigm shift called for continuous teacher professional development and retraining to meet up with the new challenges especially the enhancement of learner-centered curriculum. New syllabuses for the competency based approach were introduced in secondary general schools in the 2013 / 2014 academic year. The syllabuses contained expected competences which learners are to acquire at the end of the learning process. With this approach which strives to meet learner’s unique needs, the focus of the teaching/learning transaction is

¹⁹ MINEDUC/BAD, *Curricula Based on the Development of Competences: Cameroon Primary English, Mathematics Syllabuses*, Yaounde, 2003.

to engage learners to self-directed knowledge as well as to develop the necessary skills and competencies in these learners.

The government's initiative for the introduction of competency based approach gave impetus for educators to realize that their task was not only to equip their students with knowledge, but also with skills important for the graduates to provide better human resources in the workforce.²⁰ The objectives were not only to develop intellectual, civic and moral skills in these children but also competences and fundamental knowledge which will either enable them to foster their education, or to prepare them for a smooth insertion into the job market.

The CBA is considered the best approach applicable to our Cameroon context since it hinges on active student learning. It deviates from the norms of the traditional teacher-centered approach towards a more integrative form of learning. In this light, learners are equipped with knowledge, skills and competencies to handle real life situations familiar to them. Graduates will no longer be trained to be job seekers but would rather be trained to be job creators. This approach matches with Montessori's call for education to be a means of developing individual potentials. It will be best suited for the development of learner's competencies which will help in problem solving. This is because the CBA advocates defining educational goals in terms of precise measurable descriptions of knowledge, skills and behavior that students should possess at the end of a course of study. The government has placed great importance on quality education and recognizes it as an essential component for the development needs of the society. However, quality is still an issue of concern at all levels of the education system of the country as is seen in the high dropout rate and high levels of unemployment. Putting it differently, the quality of education especially in terms of relevance is the most important issue facing the country today.²¹

6.3. Challenges faced by Cameroon's educational system today

The Competency Based Approach has been implemented in Cameroon's educational system for several years now. Yet it has been observed that school leavers do not seem to be able to apply what they have learnt in school in real life. For this reason, the effect of the shift to CBA seems a little insignificant in achieving the goals for which it was introduced. There are several challenges faced in the implementation of the CBA in Cameroon which include

²⁰Lucy Nkongho Diffang, "Challenges Faced by Teachers in the Implementation of Competency Based Approach in Secondary Schools in the Southwest Region of Cameroon" in *International Journal of Trend in Scientific Research and Development (ijtsrd)*, Volume 3, Issue-6, October 2019, p.325

²¹ Ibid. p.326

some of the following; lack of some potential educational or teachers' knowledge on child psychology and inclusive education, lack of clear policy for the implementation of CBA and difference in understanding the concept of CBA by pedagogic inspectors of education at all levels, lack frequent workshops, seminars and in service training for equipping the teachers with skills to implement the competence curriculum.

Historical survey of Cameroon reveals that foreign influences have played a big role in the history of Cameroon.²² The handing of Cameroon to Britain and France by the League of Nations as a mandated territory seem to have had a negative impact in Cameroon as it led to the division of Cameroon into two parts. This division led Cameroon into a bilingual Country with English and French as her official languages. As such, the division there after led to two sub-systems of education in Cameroon following the cultures of France and Britain respectively. Each of these systems of education is so attached to their colonial culture which implies the resistance to adopt the other. These two colonial cultures in Cameroon have resulted to a serious problem of lack of progress and development in educational systems. This is evident in the lack of common vision which has provoked problems of quality education and equity in Cameroon. This has led to alienation and indoctrination in the two sub-systems. We have been made to understand that the difficulty arises from the bicultural situation of Cameroon.²³ This shows that Cameroon has two disharmonized educational sub-systems. This lack of harmonization is due to the absence of a political will which renders the process of harmonization theoretical. It is also as a result of the differences in the examination systems at the secondary school level in particular. According to Ngalim, the absence of harmonization has given birth to the discrepancies in achievement levels of students from the two sub-systems of education in Cameroon.

Another major challenge to the effective implementation of CBA in Africa and Cameroon in particular is the fact that teachers as well students are not ready to take up the responsibility of playing new roles in the classroom. In most African schools, culture tacitly requires the presence of a strong-willed teacher, and respectful, obedient and passive learners who must follow the teachers' instructions and respond to questions only when asked to do so. In fact, the teacher in this setting dominates in classroom activities while student intervention

²²Valentine B. Ngalim, "A Conflict of Colonial in the Educational Sub-system in Africa: Celebrating Fifty years of Political and Educational Sovereignty in Cameroon", *European Scientific Journal*, June 2014, vol.6, No.6, p.622-635.

²³Valentine B. Ngalim, "Harmonization of the Educational Sub-systems of Cameroon: A Multicultural Perspective for Democratic Education", *Creative Evolution*, 5, p.334-346.

is occasional and short-lived. It is difficult to see teachers start a lesson by consulting learners over which competencies they want to acquire. According to Kathryn, most of the teachers in Africa preferred traditional methods of assessment (fill-in-the-blanks types of activities with only one correct answer, true/false questions, matching tasks, and so on), over modern ones and the students who fail the formative assessments are neither given more time to go through the activities nor remediation exercises that could lead to mastery of the competencies under study.²⁴ With this, many students regardless of whether they have shown mastery of the competencies under study are usually allowed to progress to the next competencies, modules and even levels.

Another main challenge faced in the successful implementation of the CBA in the educational system in Cameroon is the inadequacy between knowledge from school and the needs in terms of competencies searched for by the economic, professional and social institutions. The products of Cameroon's educational system are unable to use their knowledge adequately for problem solving and eventual fulfillment. One can be tempted to assert that in Cameroon, a majority of people are merely instructed and not educated. Besides this, another challenge comes from the inadequate funding for private and even public educational institutions. There is equally the absence of an efficient professional development in the educational sector of Cameroon.

6.4. What can be the way forward?

It is clear that the Cameroon educational community has a lot to learn and to gain from Montessori today. The vision of Cameroon as an emergent nation come 2035 requires renewing educational options to focus more on the fulfillment of individual potentials, self-development, job creation as well as well as nation building. There is need to encourage an educational system which blends general education with vocational and technical training. This warrants the re-structuring of the curriculum, instructional method as well as some commonly held perceptions which are products of the traditional system of education. The question now is: How do we realize this vision in Cameroon today?

The CBA is very important in fostering progress in Cameroon today as it advocates student-centered teaching and meaningful interaction in the classroom. With this, both teacher and students are required to play new roles in the teaching/learning process. Teachers become

²⁴Kathryn Anderson, "Global Flows of Competence-based Approaches in Primary and Secondary Education" in *Cahiers de la recherche sur l'éducation et les saviors*, no 06, 2017.

guides or facilitators instead of providers of information. They are not glued to the textbook only; instead, they are free to use authentic materials from a variety of sources beyond the officially recommended textbook, and provide authentic assessments to their learners.²⁵ In the meantime, students are required to participate actively in the construction of knowledge, and are allowed to take decisions regarding their learning.

Also, we have seen that one of the fundamental problems of the educational system in Cameroon stems from the fact that they are products of their colonial masters. These sub-systems have generated conflict in the country which has retarded development in Cameroon. In order to overcome these challenges, there is need to first of all deconstruct colonial educational systems. By so doing, there will be an establishment of values proper to the interest of Cameroon. Harmonization should be put into practice in order to enhance a system that appropriates values for the full integration of Cameroonians into their society.²⁶ However, these values have to be laid on the people's culture. The system of education introduced should be contextualized facing the problems and realities of the country. For this reason, Montessori's Method of education will be best suited and of utmost importance to the appropriation of this in Cameroon.

In addition, Boudersa argues that; “professional training and professional development is a necessary ingredient to support innovative and beneficial teaching because most of them come to their career as teachers with little formal professional training or experience in current approaches of teaching”.²⁷ According him, the lack of this professional training and development can account for the rise of dissatisfaction in the quality of some teachers in forming competent students with the necessary knowledge and skills in the different subject matters. Teachers should be encouraged to acquire skills on any newly introduced approach to teaching through seminars, workshops, and on the job training and research. Anane equally holds that unless there is initial training and follow up assistance provided for teachers on periodic bases, there is a tendency for teachers to teach as they were taught, meaning that in the filed they can easily slip back into the role of the traditional teachers.²⁸ This is due to the

²⁵Daniel Nkemleke and Patrick Belibi Enama, Strategies for enhancing learners' language competence with special reference to Cameroon, *Syllabus Review* vol. 8, issue 1, 2019, p.117

²⁶Valentine B. Ngalim, *Critical Thinking in Education: An Introduction to Philosophy of Education in the African Context*, PEP, Bamenda Cameroon, 2014, p.141

²⁷Nassira Boudersa, “The Importance of Teacher Training and Professional Development Programs in the Algerian Educational Context: Toward Informed and Effective Teaching Practices” in *Experience Pedagogiques*, vol.1, 2016, p.1

²⁸Anane Caroline A, “Competency Based Training: Quality Delivery for Technical and Vocational Education and Training Institutions” in *International Journal of Educational Research*. Vol. 2 issue 2, 2013, p.5-6.

fact that, it is the same teachers who handle the two systems: Traditional and CBA and as such switching from one role to the other might pose a serious challenge for some teachers.²⁹ Also, Lilian Wiysahnyuy suggests that to enhance professional development of teachers, there is need to attend conferences, seminars, workshops, short courses and undergo in-service training if need arises to improve on or gain more knowledge on subject matter, teaching techniques, skills and assessment strategies which are in one way or the other related to the CBA. Summarily, teachers should be flexible to learn new teaching methods suitable for competence-based teaching and learning situations.

There is equally need for a relaxed classroom environment in institutions of learning. Setting up a classroom environment that is conducive for learning is central for the successful implementation of the CBA in Cameroon schools today. It is important to remember here that a planned and well prepared learning environment, learner motivation and self-confidence within the environment are vital in making the acquisition of the necessary skills effective. To do this effectively, the teacher must satisfy learners' two basic needs, namely safety and security, and a sense of belonging.³⁰ To address the safety and security needs of secondary school learners, it is vital to teach them predictable routines and signals that help manage the class, support the running of lessons and facilitate classroom interaction as well as reduce anxiety. To address the need of students to belong to a classroom family, teachers should encourage them to ask questions and collaborate as often as possible with their classmates through small group and pair work activities.

In addition to the above-mentioned requirements, we recommend that teachers integrate songs, games, storytelling, role play and dramatization into their lessons. This makes learning more enjoyable and reduce students' anxiety in the classroom. From this, we can understand that Montessori's idea of a well prepared learning environment is applicable within the context of the CBA approach and its success in Cameroon schools today.

Also, there should be a focus on the learner as the center of learning. The classroom within the frame work of the Competency Based approach is a student-centered learning environment. Here, students take control of their own learning by becoming active participants

²⁹ Lilian Wiysahnyuy. "The Competency Based Approach in Cameroon Public Secondary Schools: Modes of Appropriation and Constrains", in *International Journal of Humanities Social Sciences and Education (IJHSSE)*, vol 8, no. 1, 2021, p. 92-103, p.93

³⁰ Suzanne Peregoy, and Owen Boyle, *Reading, writing and learning in ESL: A resource book for teaching K-12 English learners*. 6th ed. Boston, M.A.: Pearson, 2013.

both in the construction of knowledge and decision making about what they want to learn.³¹ Through interaction with their peers on one hand, and scaffolded assistance from the teacher on the other hand, students construct knowledge on the issues or topics under study. The teacher guides learners throughout the learning process so that they discover the rules by themselves through active participation. Instead of the teacher's delivery of the knowledge she has constructed alone at home, knowledge is co-constructed between learners and teachers in the classroom.³² However, students must be taught learning skills explicitly so as to enable them participate effectively in knowledge construction and production. For instance, they should be taught stages of knowledge construction which include observation, asking pertinent questions, emission and testing of hypotheses, problem solving and restructuring old knowledge.³³ With this being effectively implemented, Montessori says the students will become active learners rather than mere spectators in the classroom as well as "producers rather than consumers".

According to Richards and Rodgers, each approach to learning needs specific teaching materials in order to realize the aim of its foundation. Therefore, for the implementation of the CBA to be effective, the instructional materials must be the ones that can motivate the learners and provide information in an interesting way, bring the real life situation and cultural information to the classroom, supply learner with real exposure to the target language, and meet the needs of the learner.³⁴ There is need for the teachers to use authentic materials that have local relevance, that connect students to their reality outside the classroom and that are appropriate to their level of understanding and development. According to Tomlinson, "an authentic text is one which is produced in order to communicate rather than to teach... the text does not have to be produced by a native speaker and it might be a version of an original which has been simplified to facilitate communication".³⁵ In practice, this means, for instance, that in the course of teaching lessons teachers should feel free to get appropriate materials outside the recommended textbook to make their classes livelier.

³¹ Daniel Nkemleke and Patrick Belibi Enama, Strategies for enhancing learners' language competence with special reference to Cameroon, *Syllabus Review* Vol. 8 (1), 2019, p.123

³²Griffith, and Hye-Yeon Lim, "Introduction to competency-based language teaching", in *MEXTESOL Journal*, vol.38 issue 2, 2014, p.1-9.

³³Carlous Muluh Nkwetisama, "The Competency Based Approach to English Language Education and the Walls Between the Classroom and the Society in Cameroon: Pulling Down the Walls", in *Theory and Practice in Language Studies*, Vol. 2, issue 3, 2012, p. 516-523

³⁴ Lilian Wiysahnyuy. " The Competency Based Approach in Cameroon Public Secondary Schools: Modes of Appropriation and Constrains" in *International Journal of Humanities Social Sciences and Education (IJHSSE)*, vol 8, no. 1, 2021, pp. 92-103, p.95

³⁵ Brain Tomlinson, "Materials development for language learning and teaching", in *Language Teaching*, vol.45 issue 2, 2012, p.162.

More so, there is need to reduce overcrowded classrooms. Despite the teacher's ability to guide his or her learners towards acquiring the necessary skills using the CBA, it becomes difficult for them to pay individualized attention to learners, to motivate and foster the unfolding of their individual potential due to the overcrowded nature of most classrooms they find themselves in. For this reason, it is important to limit the number of students per class in order to achieve effective implementation of the CBA. Teacher-students ratios should be emphasized at all levels of education to maximize teacher-student and student-student interactions. The teacher-student ratio should be moderate. This will enable teachers to be able to identify and attain to individual problems during the teaching-learning transaction. The ideal CBA class size is between 40-50 learners. With this class size, teachers are able to create a good relationship with all his/her learners and will be able to meet the needs of these learners. According to Makunja, for the CBA to be effectively implemented a class should not go beyond forty learners.³⁶

One other important recommendation is that assessment procedures need to be transformed from only pen and paper to multiple forms of assessments so as to accommodate all knowledge and skills demonstrated by learners. Evaluation under the CBA needs to be performance based which is of two types, formative or summative. The formative is ongoing and continuously used all along the route toward the prescribed competency. Summative assessment, on the other hand, determines competency mastery which is administered as a final test. Failure in summative tests equals retaking the same module and not moving on to the next competency. The summative assessment, as stated by Griffith and Lim needs to involve performance based tests (practicals are encouraged) not only fill in the blank, and multiple choice tests.³⁷

In addition, in order to Promote the development of human potentialities in education as Montessori advocates, the re-enforcement of technical and vocational education in Cameroon should be taken seriously. Technical and vocational Education and Training is known to be best suitable for the enhancement and acquisition of certain professional skills by students and individuals as required by the industry and society as a whole.³⁸ The need for technical education and vocational training which is seen as a vehicle to lay the foundation

³⁶Grace Makunja, "Adopting Competence-based Curriculum to improve quality secondary education in Tanzania: "Is it a dream or reality?" in *International Journal of Education and Research*, vol.3, issue 11, 2015.

³⁷Griffith and Hye-Yeon Lim, "Introduction to Competency-Based Language Teaching" in *Mextesol journal*, vol.38, issue 2, 2014.

³⁸ Efande Lyonga, "Expansion Policy of Secondary Technical Education as A Correlate to the Acquisition of Basic Technical Skills by Students in Cameroon" in *Journal of Education and Practice*, vol.6, No.35, 2015, p.8

stone for an industrial emergence of Cameroon's vision by 2035 has continued to be on the rise. In part III of the Cameroon law No 98/004 of 14 April 1998 which was aimed at laying Down Guidelines for Education in Cameroon it was stated that "in addition to general education, practical training shall be provided to students in vocational colleges and high schools, on the basis of the courses they choose". Viewed from this perspective, the aim of technical and vocational training in this context are to provide trained manpower in the applied sciences, technologies and business particularly at the craft, advanced craft and technician levels whose fundamental aim is to develop and to impart the necessary technical skills into individuals in order to make them self-reliant economically.³⁹

This shows that the reinforcement of technical education in Cameroon can help in providing a well trained workforce for various employment sectors, to increase understanding of technology, and to prepare people who might be able to solve the environmental problems Cameroon is facing. Atayo a Cameroonian author, describes vocational and technical education as 'socially useful work' which also aims to help students develop critical awareness about their education and society.⁴⁰ Advocating the importance of technical and vocational education, Atayo declares that;

*The acquisition of practical and applied skills as well as basic scientific knowledge [is] rudimental for the survival of any potential society. If one does away with all other education, a country can survive with technical and vocational education.*⁴¹

Most importantly, the world is increasing becoming interconnected and this has brought about the application of technological advancement in all sectors of society. The United Nations and UNICEF⁴² have tied digital access to a child's right to education, affirming that as the world becomes more connected through information and communication technologies, children require digital access to grow, learn, and succeed in a modern economy.⁴³ To this effect, quality education necessitates the active and innovative exploration of these technologies so as to maximize its benefits in supporting education achieve its aims. This calls for re-conceptualizing

³⁹Ibrahim D., Adisa S., Abdulkadir M. and Nene M, "Gender Inequality in the Performance of Bricklaying and Blocklaying Practical Skills among Technical College Students in Niger State, Nigeria" in *IOSR Journal of Research & Method in Education*. Vol. 3, Issue 5, in *IOSR Journal of Research & Method in Education*. Vol. 3, Issue 5, 2013

⁴⁰ Atayo Asonganyi, *Cameroon Educational System*, Buea, Cameroon, Loving World Publishing House, 2000, p.46

⁴¹ Ibid., p.47

⁴² United Nations International Children's Emergency Fund

⁴³Janelle Crockett, Gilbert Ajebe, and Rosaline Awutarh, *Digital Education in Cameroon: An Analysis into Available Tools and Perceptions Regarding Benefits, Barriers, and Access to e-Learning Tools in Southwest Cameroon*, Solidarity and Development Initiative, London, United Kingdoms, 2021, p.4

and restructuring the educational enterprise in order to confront the technological challenges of this millennium. With rapid changes within society and radical transformations in the way people acquire knowledge, new teaching paradigms are required, ones that tune educational systems to modern times and ensure quality training for large numbers of persons.⁴⁴The successful implementation of CBA requires that adequate teaching and learning resources (such as print materials; textbooks, visual materials; video and audio visual materials) be available, this means that teachers must have digital and online skills to teach students some of the competencies they need. The introduction of information and communications technologies (ICT) in education should be reinforced. This is because technology reflects and responds to present and future needs of people functioning in an intensely changing and challenging intellectual environment.

In an attempt to valorize the use of digital technologies in Cameroon's educational system, Professor Nalova Lyonga , the Minister of Secondary Education encourages stakeholders in education to adopt the digitalization of teaching so as to advance with the modern times. In her keywords, she encouraged teachers to embrace distance education and to articulate it with in-presence teaching mode so as to help learners to bridge the technology gap towards advance countries and achieve greater and better results needed to live in the 21st century.⁴⁵ Within this framework, the 2022/2023 school year in the ministry of Secondary education (MINESEC) was marked by the improvement of the training provision and the promotion of digitalized teaching. The school year was centered around the theme; "Digitalization of teaching: an effective and efficient determining factor for the provision of training at the Ministry of Secondary Education".⁴⁶ This seeks to encourage distance education and for an increased use of digital tools for teaching. In the words of Professor Nalova Lyonga;

*My colleagues, we have a task to be as good as the first. Well, we might not all get the goals at the same time but we shall try; we shall try to do the best that we can. Digitalization gives us the opportunity to be able to do things that cannot do. Welcome the machines and you will find that you are having almost the same results as those in the West.*⁴⁷

⁴⁴Mbangwana Moses, Introduction of ICT in Schools and Classrooms in Cameroon. In K. Toure, T.M.S. Tchombe, & T. Karsenti (Eds.), ICT and Changing Mindsets in Education. Bamenda, Cameroon, 2008, p.2

⁴⁵Aime Ngidjol, 2022-2023 school year in MINESEC retrieved from <https://www.minesec.gov.cm> May 13 2023

⁴⁶Ibid.

⁴⁷Ibid.

With this policy being implemented and measures put in place for its application and accessibility to digital tools at every part of the country, this great vision can be accomplished in Cameroon.

Taking from the above, we have been made to understand that using the recommendations outlined above could promote the effective implementation and eventual success of the CBA to teach students the skills they need to function in society. Within the Cameroonian context characterized by a lack of resources, non-respect of laws, that prevent the effective implementation of the Competency Based Approach, it becomes necessary to top up at every level and sector of the economy that affects educational progress in our nation. However, it is our hope that the present study will contribute in reassuring them the need to take the CBA seriously so as to achieve better and more satisfying results. This will go a long way to improve on the educational sector in our country.

6.5. The Hack Mindset in education as a Method of learning that promotes innovation and creativity

Hacking is a skill used to improve on the ability to access people's minds. The hack mindset in education refers to the idea of seeking out unconventional methods to achieve one's academic goals. It involves adopting new strategies, tools or techniques to maximize learning and increase academic performance. During the teaching learning transaction the hacking principle helps in getting into the minds of the students. It is used to improve productivity. Montessori's educational doctrine applies this principle which is very relevant in our contemporary society. A good teacher is he who applies this principle in order to improve the productivity and learning competencies of the learners. In order for the hacking principles to render learning effective there are some strategies to be used. Hooking is one of the hacking principles. It can be defined as the mannerism of doing things. It can take the form of questions, songs, story and drama related to the course. This activates the thirst for knowledge in learners provoking them to ask questions related to the lesson. Hooking greatly helps the students to access their daily life's experiences and relate them to the lesson thought.

Montessori's educational view instills bias towards action during the teaching learning process which is another component of the hack mindset. Bias towards action is the situation where an educator gives the responsibility of learning to the students. This responsibility helps the learners understand concepts better rather than imposing preconceived ideas as is the case with traditional models of learning. The competencies acquired through this method helps

learners to have creative minds, thus enhancing problem solving. According to Jake, “We (teachers) spend so much time planning because we feel like we have to.”⁴⁸ Having some room for improvising and having students flesh things out is really valuable.” According to Montessori this will help the learners to feel needed within the classroom thereby boosting their confidence. This is done by giving the students tasks and activities to explain to others like exposes and debates. This will enhance their learning competencies.

To add, fail forward is another vital component of the hack mindset. This is because failing is an opportunity to learn. A good learner is he who sees failure as an opportunity to learn again and to learn better. With respect to this, learners are encouraged to understand that it is okay to fail or to make mistakes, as long as they learn from them. They are equally encouraged to celebrate their successes, but also to reflect on what went wrong in order to guide their next steps. As Henry Ford famously said, “Failure is simply the opportunity to begin again, this time more intelligently.” By virtue of mistakes in teaching, the students and the teachers have more opportunity to learn intelligently. According to Montessori, when a learner fails to accomplish a task, he/she becomes motivated to work harder when confronted with much better learning materials. This shows that fail forward is vital in enhancing learners to strive for the best.

However, the educator should not over pump material into the students’ minds. Teaching and learning should be a gradual process which is taken step by step. This makes use of the hooking technique of start-small which demands that teachers start from simple materials before introducing more complex ones to the learners. This encourages Analysis in the educational set up which involves the breakdown of materials into small and understandable units.

The principles of the Hack mindset are relevant in education for a teacher educates the students to construct their own knowledge, think for themselves and by themselves.⁴⁹ It also helps to develop their innate potentials for self-actualization. Using the hack mindset in the educational process proves not only to increase learners’ engagement, but also lowers stress and encourages creative and innovative thinking. The hack mindset can also help create a more

⁴⁸Mark Hofer and Lindy Johnson, How the Hack mindset can foster innovation in schools, 2017, retrieved from <https://www.ascd.org> May 13 2023.

⁴⁹Valentine Banfegha Ngalim, *Critical Thinking in Education: An Introduction to Philosophy of Education in the African Context*, PEP, Bamenda Cameroon, 2014, p.10

creative school culture and facilitate the initial steps toward more long-term or comprehensive initiatives identified through formal strategic-planning processes.⁵⁰

One of the implications of the hack mindset is that students are more likely to be motivated to learn if they are given the freedom to explore new and unconventional ways of doing things. Instead of approaching learning as a set of prescribed steps, students are encouraged to think outside the box and find creative solutions to problems. It also encourages students to take control of their own learning. Instead of relying solely on the teacher or textbook, students are empowered to find information and resources on their own. This can build confidence and increase independence, which can ultimately lead to higher academic achievements.

However, it is important to note that the hack mindset is not a panacea nor is it a replacement for hard work, dedication, and perseverance. In fact, students who rely exclusively on the hack mindset may miss out on valuable foundational knowledge and skills that are necessary for long-term success. Overall, the hack mindset can be a valuable tool for students who are willing to take risks, think creatively, and work hard. By adopting a more experimental and flexible approach to learning, students can achieve greater academic success and prepare themselves for success in the future.

In a nutshell, we have understood how Montessori's educational views can be relevant within the context of the Competency Based Approach, we have seen what the Competency Based Approach is and also how it is being implemented within the educational system in Cameroon. We have also looked at the challenges faced by the educational system in Cameroon today and in an attempt to overcome them, we have elaborated on how the CBA can be effectively used as a bridge to success in Cameroon and in achieving the goal of education according to Montessori which is that of the development of human potentialities. As a way of hinting our educators on the effective ways through which the goals of education as prescribed by Montessori can be achieved by tackling classroom learning in itself, we have made mention of the hack mindset to learning as a means of realizing the goals of education we have postulated for. From this, we have realized that Montessori's view of education as the development of human potentialities serves its purpose in re-emphasizing the need to

⁵⁰Mark Hofer and Lindy Johnson, How the Hack mindset can foster innovation in schools, retrieved from www.ascd.org May 13 2023.

restructure our educational systems so as to meet the demands in the fast growing economies in Africa and Cameroon in particular.

GENERAL CONCLUSION

This research work has attempted to examine the ways through which education can help in the development of human potentialities so as to endow in the learners critical thinking and problem solving skills. By this, we want to see how to adopt an educational method which promotes the development of individual potentials by bringing out the skills and creative minds of the learners based on the realities and situations of the society. Our point of focus is to examine how Maria Montessori's view of education helps in the development of human potentialities and enhances competencies and creative powers that are adaptive to the needs of the learners and the society at large.

During our research, we attempted to validate the point of view that education can effectively develop human potentials if the right principles and method are applied. This means that the supreme goal of education is to develop the innate powers and capabilities of each learner regardless of their specificities. It has been noted in our contemporary world that the most important needs of nations are practical ones and they can only be easily be attained through an education that focuses on developing the potentialities of all learners rather than in dumping dead knowledge in to their minds. This explains why for the past decades, many philosophers of education have tried to prescribe a definite standard under which they think education can help the individual to develop his or her self and the society at large.

Montessori advocates for education which is progressive in nature and can help the child not only to accelerate mental growth, but to fulfill his or her innermost potential. According to her, education should no longer consist only of imparting knowledge, but must take a new path, seeking the release of human potentialities.⁵¹ We have as such advocated for a curriculum that focuses on the appeal to the learner's innate hunger for knowledge and self-actualization. This curriculum requires students to manipulate real life tools in order to gain an understanding of the world. This has helped to make the curriculum developers of today aware of the need for a more critical and practical curriculum in schools. This will help students prepare for life with a more organized approach to academic skills, problem solving, development of independence, self-discipline and interest in learning.

We argue in this work that for education to develop the necessary skills and potentials as held by Montessori, it must be built on certain principles and aspects. Our point of focus is

⁵¹ Maria Montessori, *Education for a New World*, op.cit, p.2

to outline the goals of education and prescribe a sense of action and reflection on the contemporary systems of education and the need for the building of personal skills through education. Rather than the teacher being seen as the 'knowledge holder' and the learners as nothing more than an 'empty vessel' to be filled up with knowledge, it aims at treating learners as naturally inquisitive individuals and it creates hopes for facilitating understanding and building the necessary skills in the learners. Education should serve as a process of drawing out what is already within each individual. This shows that true education must help to reveal that which is present in the developing individual and make it blossom. In order for this to be achieved, the teacher needs to develop the ability to observe his or her learners so as to be able to discover that which is innate and work towards drawing it out rather than imposing on the learners. This approach will celebrate the unique potential of each child while establishing a learning environment that is suitable for the unfolding and realization of these potentials.

The purpose of education in this light is also to foster independence and to encourage freedom with responsibility. It is as such necessary for the teachers to encourage learner's construction of meaningful skills while supporting the learner's search for answers. Montessori was not saying we should absolutely trust the learners with their own learning. Instead, the teacher should assume the role of a facilitator, attuned to the learners' actions and intervene when needed in order to ensure that students are engaged in constructive activities. In essence, the goal of education here is not for the teacher to direct, drill or instruct, rather it is to give children the opportunities for independent thinking.

In the same light, education should prepare the child for a life of service to humanity. Education is vital for the functioning of society. It is an integral part of socialization of every human being and is essential for interaction and cooperation with others in our society. Montessori sees education as a tool for the development of world peace. This is because education develops an inter-cultural understanding among students and also nurtures within the learners the desire to grow up and become 'stewards' of their environment. This approach shows that once our learners are first being respected to develop their own skills, it will teach them to be respectful in the world at large and work towards building it. She believed that the child's adaptation to one's own time, place and culture involves the capacity to meet new situations and to have the intelligence and courage to transform them when change is needed.⁵²

⁵² Paula Lillard, *Montessori Today: A Comprehensive Approach to Education From Birth to Adulthood*, New York, Schochen Books, 1996.

She believed that children are inherently good and are the major hope for a better and more peaceful world.⁵³ As the scripture says; “train up a child in the way he should go, and when he is old he will not depart from it.”⁵⁴ No doubts Montessori believed that “preventing conflicts is the work of politics; establishing peace is the work of education.”⁵⁵ It re-iterates the believe that learners who are allowed to be creative, free and independent will evolve into creative adults who would ensure a society devoid of wars, with abundance kindness and peace.

We have noted that the educational system in most countries particularly within Africa follows a curriculum that hardly reflects the experiences of the learners. This is the reason why most often, what is being brought out as program by curriculum designers and policy makers is according to what they think and feel is right at the expense of what is actually required of the learners as outcome. They most often neglect the learners’ creative minds which is the reason why the teaching and learning process is a kind of deposit making. To this effect, Africa and other third world countries are not able to effectively used knowledge gotten through education to solve their daily life challenges and problems. Education has also been politicized. However, given that education entails the development of the individual and the society at large, how can we transform the educational systems in Africa and Cameroon in particular to focus more on developing the necessary skills and potentials rather than the “banking system of education”?

With Montessori’s educational vision as a means of developing human potentialities, we hope to establish a more reflective and critical pedagogy in our educational systems today. This means the adoption of a pedagogical approach that involves students actively taking part in their own learning and working together with educators in order to solve real world problems. With this, the problems of the society become the organizing center and the context for learning. However, it makes learning relevant to the real world as it builds up learners that stand at the service of humanity. Learners are more engaged in the classroom because they are able to know that the skills they acquire from there will help them solve their daily life problems as well as those of their society.

In Africa today, we continue to face some challenges with regards to the nature of some educational systems which at times does not permit the learners to think for themselves and to

⁵³ Mark Powell, Social and emotional learning in Montessori education. *Montessori LIFE*, 2001, vol.13, issue 1, p.32-34

⁵⁴ New King James Version Bible, Proverbs chapter 22, verse 16.

⁵⁵ Maria Montessori, *From Childhood to Adolescence*, New York, Schoken, 1948, p.24

build up their skills based on the realities in the society. Prominent among these problems identified were; overloaded syllabuses and schemes, high rate of failure, the inability of students to deal with daily life problems, the mismatch between school graduates and employment demands among others. In short it was noticed that some of our educational systems was inadaptive to most of the needs of the society today and fell short of producing fully functional persons. Another major challenge is seen in the inadequacy between knowledge from school and the needs in terms of competencies searched for by the economic, professional and social institutions. The products of such systems are unable to use their knowledge adequately for problem solving and eventual fulfillment. Learners here seem to depend solely on the knowledge of the teacher, focusing only on acquiring grades (drawing us back to the traditional method) rather than fulfilling one's innermost potentials which we posit for.

We argue in this work that education should be contextualized. This is because learning can best be achieved through critical thinking and analysis of one's own potentials, experiences and feelings. Context specific education values the thirst for knowledge by each and every individual thereby providing means for it to be fulfilled.

Moreover, in order to transform the educational system of the African nations, the Competency Based Approach (CBA) should be made effective. the Competency Based Approach (CBA) has acquired popularity recently in the academic community. This is due to the growing need for education to cultivate in every individual the ability to live and share with others while allowing him to develop as an autonomous, free, critical and creative being. In fact, it is no longer in style to impart knowledge or apply specialized knowledge through instruction alone. Competency Based education is a performance based process leading to demonstrated mastery of basic and life skills necessary for the individual to function well in the society. It enables students to demonstrate the knowledge and skills they have learned as they progress through their education. The CBA is very important in fostering progress in Africa today and in Cameroon to be precise as it advocates student-centered teaching and meaningful interaction in the classroom. With this, both teacher and students are required to play new roles in the teaching/learning process. Teachers become guides or facilitators instead of providers of information. They are not glued to the textbook only; instead, they are free to use authentic materials from a variety of sources beyond the officially recommended textbook, and provide authentic assessments to their learners. In the meantime, students are required to participate actively in the construction of knowledge, and are allowed to take decisions

regarding their learning. In this paradigm, students take control of their own learning which is what is highly encouraged by Montessori.

This approach faces some challenges in the Cameroon system of education. Some of these include ignorance, laziness, lack of enthusiasm to learn, little or no training on the CBA and the reluctance to participate in capacity building seminars. However, in principle the preparation of CBA curriculum requires careful and intensive training as well as the zeal to work for the good of the system. This shows that in order for some of the problems to be solved, we need to start from the curriculum. Also, continuous and extensive training needs to be given on CBA curriculum to raise awareness of the teachers and experts who are supposed to develop the curriculum and see to its implementation. As such, the learners will be able to think for themselves, construct knowledge, develop creative minds through the appropriation of their skills which will enable them solve their daily life problems. This will open the way for development in many less developed nations.

This research work helps to make curriculum developers aware of the need for critical curriculum in schools. It serves as an indicator to the curriculum and policy makers to bring up programs that will enhance the building of human potentials. This study is also important in the sense that it helps to deconstruct the traditional view of knowledge transmission which focuses more on memorization and the acquisition of grades. This will lead us to examine the ways in which education can help in developing human potentials so as to endow in the learners critical thinking and problem solving skills. As such, learners at this juncture are given the chance to maximize their potentials and also to reflect on the problems and situations plaguing their society. The teacher acts as a facilitator and guide, thereby letting the learners work out their creative minds without any preconceived ideas being imposed on them.

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