

**UNIVERSITY OF EDUCATION, WINNEBA**


**CONTRIBUTION OF PHYSICAL FACILITIES TO TEACHING AND LEARNING  
IN PRESCHOOLS IN THE TECHIMAN NORTH DISTRICT**

**IRIS R. Y. AGBEMETSI**

**2019**

**UNIVERSITY OF EDUCATION, WINNEBA**

**CONTRIBUTION OF PHYSICAL FACILITIES TO TEACHING AND LEARNING  
IN PRESCHOOLS IN THE TECHIMAN NORTH DISTRICT**



**IRIS R. Y. AGBEMETSI  
(816019006)**

**A THESIS IN THE DEPARTMENT OF EARLY CHILDHOOD EDUCATION, FACULTY  
OF EDUCATIONAL STUDIES, SUBMITTED TO THE SCHOOL OF GRADUATE  
STUDIES, UNIVERSITY OF EDUCATION, WINNEBA IN PARTIAL FULFILMENT OF  
THE REQUIREMENTS FOR THE AWARD OF THE MASTER OF PHILOSOPHY  
(EARLY CHILDHOOD EDUCATION) DEGREE**

**MAY, 2019**

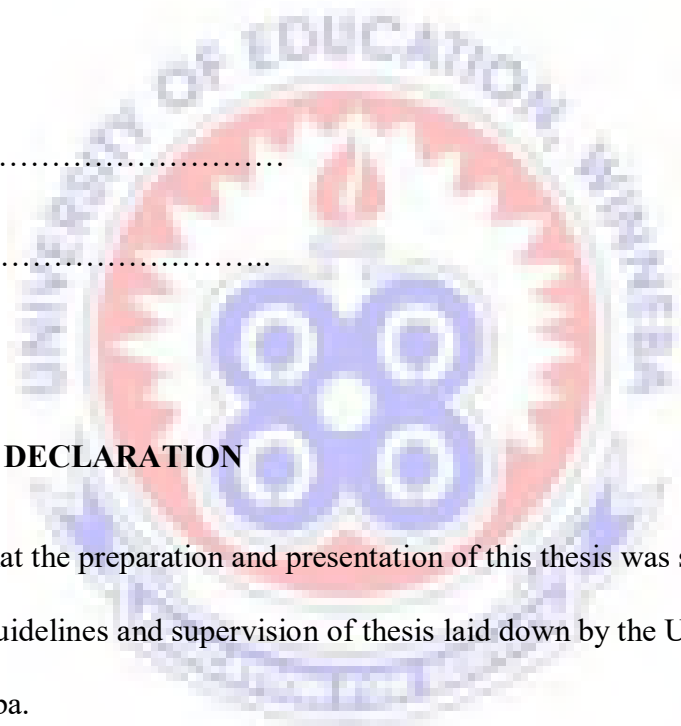
**DECLARATION**

**STUDENT'S DECLARATION**

I, IRIS R. Y. AGBEMETSI declare that this thesis, with the exception of quotations and references contained in published works which have all been identified and duly acknowledged, is entirely my own original work and it has not been submitted either in part or whole for another degree elsewhere.

Signature: .....

Date: .....



**SUPERVISOR'S DECLARATION**

I hereby declare that the preparation and presentation of this thesis was supervised in accordance with guidelines and supervision of thesis laid down by the University of Education, Winneba.

Name of Supervisor: .....

Signature: .....

Date: .....

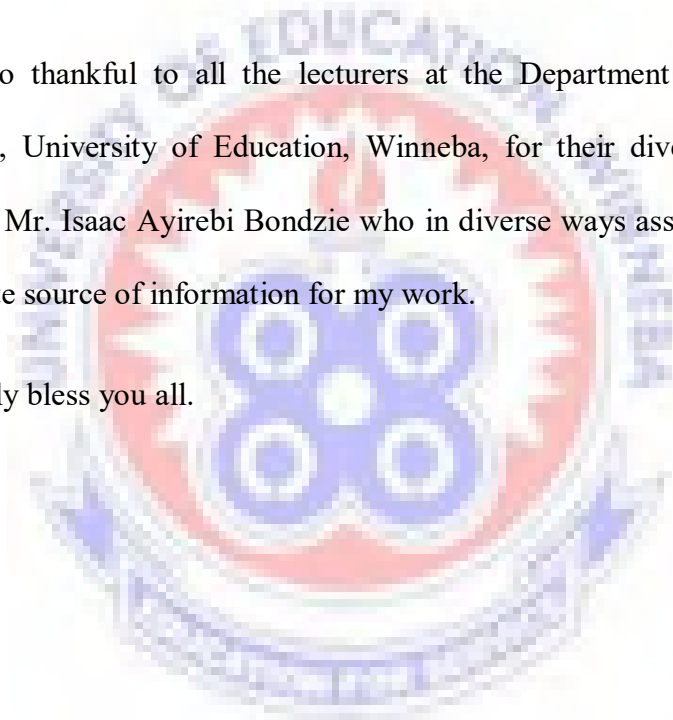
## ACKNOWLEDGEMENTS

In the first place, I give thanks to the Almighty God for sailing me through my educational endeavor and successful completion of my study.

I wish to express my sincere gratitude to my supervisor Dr. Samuel Oppong Frimpong for his professional guidance and meaningful criticism to ensure the successful completion of this study.

I am also thankful to all the lecturers at the Department of Early Childhood Education, University of Education, Winneba, for their diverse support and not forgetting Mr. Isaac Ayirebi Bondzie who in diverse ways assisted me in obtaining appropriate source of information for my work.

God richly bless you all.



## **DEDICATION**

To my children, Mrs. Doreen Elikem Adiyiah, Mr. Joshua Naatey Ternor, Aku Shika Ternor,  
Selasie Adzabeng and Ariel Adiyiah



## TABLE OF CONTENTS

<b>Content</b>	<b>Page</b>
DECLARATION	i
ACKNOWLEDGEMENTS	ii
DEDICATION	iii
TABLE OF CONTENTS	iv
LIST OF TABLES	viii
LIST OF FIGURES	ix
ABSTRACT	x
<b>CHAPTER ONE: INTRODUCTION</b>	<b>1</b>
1.1 Background to the Study	1
1.2 Statement of the Problem	6
1.3 Purpose of Study	7
1.4 Objectives of the Study	9
1.5 Research Questions	9
1.6 Significance of the Study	10
1.7 Delimitations of the Study	11
1.8 Organization of the Study	12
<b>CHAPTER: TWO LITERATURE REVIEW</b>	<b>13</b>
2.1 Overview	13
2.2 Theoretical Framework (Cash Model)	14
2.3 Development of Education in Ghana	19

2.3.1 Determinants of Education Quality	23
2.3.2 UNICEF Framework for the Quality of Education	24
2.4 The General Concept of Preschool Education	26
2.4.1 The History of preschool education in Ghana	29
2.5 Preschool Environment	30
2.6 Kinds of physical facilities available for preschool	34
2.7 Influence of School Physical Facilities on Teachers' Satisfaction	46
2.8 The contribution of physical facilities to promote teaching and learning process at the preschool level	52
2.9 Challenges of using physical facilities during teaching and learning process at the preschool	56
2.10 Conceptual Framework	58
2.11 Summary of Chapter	59
<b>CHAPTER THREE: RESEARCH METHODOLOGY</b>	<b>60</b>
3.0 Overview	60
3.1. Philosophical Underpinning of the Study	60
3.2 Research Design	62
3.3 Setting	64
3.4 Population of the Study	66
3.5 Sample and Sampling Techniques	67
3.6 Research Instrumentation	68

3.6.1 Questionnaire	68
3.6.2 Observation Checklist	69
3.6.3 Interview Schedule	70
3.7 Validity and Reliability of the Research Instruments	72
3.8. Pretesting of the Research Instrument	72
3.9 Data Collection Procedures	73
3.10 Data Analysis	74
3.11 Ethical Consideration	75
<b>CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND DISCUSSION</b>	<b>76</b>
4.1 Overview	76
4.2 Bio Data of Respondents (teachers and attendants)	76
4.3 Summary of Chapter	90
<b>CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS</b>	<b>91</b>
5.0 Overview	91
5.1 Summary	91
5.2 Conclusions	92
5.3. Limitation of the Study	93
5.4 Recommendations	94
5.5 Suggestions for Further Study	95

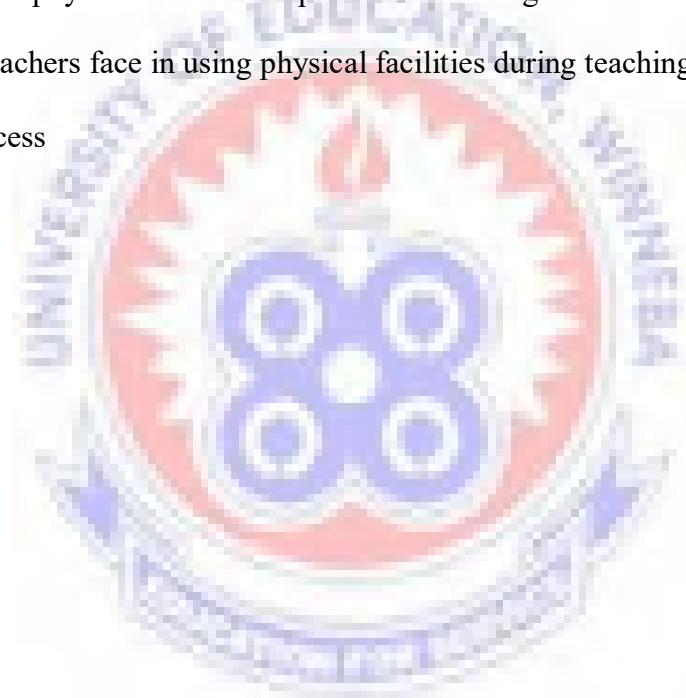


<b>REFERENCES</b>	96
<b>APPENDIX “A” QUESTIONNAIRE FOR TEACHERS</b>	101
<b>APPENDIX “B” INTERVIEW GUIDE</b>	106
<b>APPENDIX “C” OBSERVATION CHECKLIST</b>	107



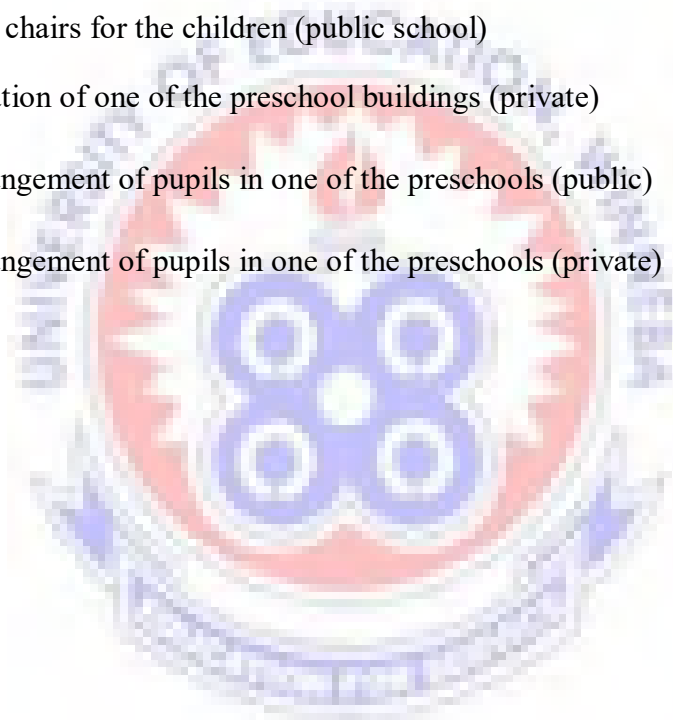
## LIST OF TABLES

<b>Table</b>	<b>Page</b>
1: Demographic Data of Respondents in relation to Gender	75
2: Age Distribution of the Respondents	76
3: Kind of physical facilities available to preschool children	77
4: Influence of physical facilities on preschool teachers' satisfaction	78
5: Contribution of physical facilities to preschool teaching and learning	79
6: Challenges teachers face in using physical facilities during teaching and Learning process	81



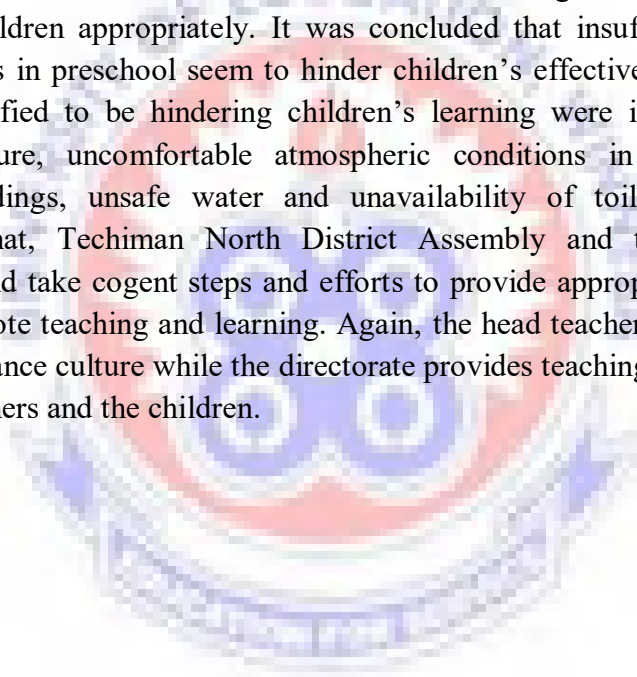
## LIST OF FIGURES

<b>Figure</b>		<b>Page</b>
1:	Cash Model (1993)	15
2:	Effect of building conditions on teacher attitudes	17
3:	Map of Techiman North District	64
4:	Dilapidated building for one of the preschools (public school)	85
5:	Tables and chairs for the children (public school)	86
6:	Front elevation of one of the preschool buildings (private)	87
7:	Sitting arrangement of pupils in one of the preschools (public)	88
8:	Sitting arrangement of pupils in one of the preschools (private)	88



## ABSTRACT

The purpose of the study was to assess the contribution of physical facilities to the teaching and learning in pre-schools in the Techiman North District of the Brong Ahafo Region of Ghana. The study adopted descriptive research with a concurrent mixed method design. Seventy-five respondents consisting of 60 teachers and 15 attendants were sampled for the study. The study employed systematic sampling, simple random sampling and convenience sampling techniques in sampling the participants. Questionnaire, interview and observation were the research instruments used in collecting data for the study. Descriptive analysis was the procedure used in analyzing the data. The study revealed that the kind of physical facilities available to the preschool children were not sufficient to enhance positive learning outcomes. It also reduces the level of absenteeism, changes in attitude and modifies behaviour of children appropriately. It was concluded that insufficient and appropriate physical facilities in preschool seem to hinder children's effective learning. Some of the challenges identified to be hindering children's learning were inadequate instructional materials, furniture, uncomfortable atmospheric conditions in the schools such as dilapidated buildings, unsafe water and unavailability of toilet and urinal. It was recommended that, Techiman North District Assembly and the District Education Directorate should take cogent steps and efforts to provide appropriate physical facilities that would promote teaching and learning. Again, the head teachers of the schools should practice maintenance culture while the directorate provides teaching and learning materials for both the teachers and the children.



## CHAPTER ONE

### INTRODUCTION

#### 1.0. Overview

This chapter talks about the background to the study, the statement of the problem, the purpose of the study, the research objectives, the research questions, the significance of the study, the delimitations and organisation of the study.

#### 1.1 Background to the study

According to Alimi (2004), *“education in every human community plays a significant role in human life and it is viewed as an indispensable instrument for human progress, empowerment and effecting national development and enables individuals to contribute to the development and improvement in the quality of life for themselves, their communities and the nation as a whole”* (p.13).

The assertion above suggests that a nation that lacks sound educational culture and philosophy stands the risk of decay whereas a nation that sees to the development of its education sector is bound to achieve great success. Alimi further stated that schools are established for the purpose of teaching and learning. It is more important that the teachers are properly accommodated with adequate school facilities to facilitate the teaching –learning process. Therefore, school facilities are the space interpretation and physical expression of the school curriculum and these evolve around the teacher and the learner. Shaari and Ahmad (2015) stated that, the key indicators of education have been teaching and learning which involve the teacher and the learner and the learning in human begins at the earliest stages of childhood development. “It is not only the learning in the early stage that matters but childhood

development is an important stage of human life that individuals develop their future beliefs and characteristics (Shaari & Ahmad, 2015; p. 27)". According to UNICEF Report (2013), in relation to developing countries, poor learning environments have always been identified as key factors that lead to poor performance in public primary schools. This is due to overstretching of the available resources due to increased enrolment. Also, physical characteristics of the school have a variety of effects on the teachers, pupils and the learning process. Poor lighting, noise, high levels of carbon dioxide in classrooms and inconsistent temperatures make teaching-learning process difficult. Poor maintenance and ineffective ventilation systems lead to poor health among the pupils and higher absentee rates among pupils. When there is conducive physical environment for the children at the preschool level, it will help improve their ability to learn (UNICEF Report).

According to Harb and El-Shaarawin (2006), there are two types of factors affecting pupils' academic achievement. These are internal and external classroom factors. Internal classroom factors include pupils' competence, class schedules, class size, textbooks, class test results, learning or school facilities, school or class environment, complexity of course materials, teachers' role in the class, technology used in the class and examination systems. External ones include extra-curricular activities, family problems, financial problems, social and other problems. This means that the aforementioned factors, if not well managed can affect pupils' performance in school especially at the preschool level.

Bailey (2002) stated that, the main purpose of preschool is to nurture children's readiness for formal education. It is essential that every appropriate physical facility provided in the environment must be conducive to the extent that children will love to stay there for longer periods. Therefore, the focus on providing physical facilities in the preschool should be geared towards retention of teacher at the preschool levels. Bailey further stated that children's learning is influenced by the interaction of natural and physical facilities which happen to be the priority to Early Childhood educators. The transitions are very important that children transferring from home to a new environment such as preschool is very crucial for the development of social, emotional, physical, intelligence and the teaching and learning of the child and, therefore, has the potential to offer a strong weapon against illiteracy and poverty, therefore, enough research on the environment especially physical facilities is very important.

According to Olds cited in Maxwell (2008), physical environment for learning encompasses physical facilities that support multiple and diverse teaching and learning activities and teaching pedagogies. Even though, designing developmentally appropriate physical environment promote effective teaching, its development is not easy to accomplish. Whatever physical environment is meant for early childhood learning should, therefore, encourage social participation, healthy life style, and comfortable, safe, secure, stimulating teachers' abilities to efficiently do their jobs. It is, therefore, essential to recognize that in preschool learning centres, the school's physical facilities should support effective teaching and learning. Oni

(2002) stated that school facilities as a potent factor to quality education is important to the teaching and learning process cannot and be over-emphasized because effective learning can occur through one's interaction with the environment. Environment here refers to "the facilities that are available to facilitate students learning outcome or achievement" (p.38). These facilities include school building, library, laboratory, textbooks, software and hardware of educational technology. These facilities go a long way to affect or enhance pupils' performance or achievement. This can be realized when there are qualified teachers to handle the subject and the facilities are available.

According to Oni (2002), facilities constitute a very important factor in any organizational functioning. This is so because they determine to a very large extent, the smooth functioning of education. Oni further stated that the availability, adequacy and relevance of physical facilities influence efficiency and high productivity. Reiterating, Farombi (1998) opined that the wealth of a nation or society could determine the quality of education in that nation; emphasizing that a society that is wealthy will establish good schools with qualified teachers and with such facilities, such that there is development as well as high academic achievement.

Joshi (2008) stated that several studies conducted into the design process of preschools found that design elements are typically overlooked in discussions regarding the preschool physical learning environment. Joshi reiterated that, preschool education should not only concentrate on lesson planning, but also on spatial arrangements, which is equally important. Children are influenced by their



physical as much as their social settings because it also affects their behaviour, academic performance and development. Salleh, Kamaruzzaman and Mahyuddin (2013) also emphasized that poor facilities and spatial quality affect teachers' motivation and indirectly affects children's education. Teachers will feel valued and motivated for working when they have access to good infrastructure, significantly improving their working performance eventually affecting children's academic outcome.

Spatial arrangements and definition also influence children development. That is, well-defined areas promote better learning and positive behaviors. Design and quality of material correlate with positive development among preschool children. Studies show that physically planned environments affect a wide range of development such as positive behavior development which was seen in better-designed physical environments. Physical shortcomings hinder children's development because it creates undesired behavioral obstacles, causing withdrawal and lack of integration with their surroundings. Physical dimensions and different aspects of the physical environment influence children's behavior and attitudes differently. Preschool physical environments affect children's competency and development in many ways. Physical environment and children's development of cognitive and social competency are directly related (Abbas, 2012). It is on this background that the researcher sought to examine the contribution of physical facilities to teaching and learning in preschools in the Techiman North District.

## **1.2 Statement of the problem**

School facilities constitute major determining factor toward ensuring quality education. It is one of the yardsticks for measuring the level of educational growth and development. For any school to function effectively, the school facilities must be in good condition. It implies substantial cost of the school system for their establishment, if not properly managed and maintained, it will affect teaching and learning. This means a poor learning environment can negatively affect children's learning outcome such as low academic results, poor behavior exposure, and anxiety among others. For instance, according to Johnson (2000), lack of appropriate infrastructure and conducive environment for Kindergarten centres deny children the opportunity to develop their cognitive and psychological skills which serves as the basic foundation for literacy, numeracy and problem solving skills.

Thus the general public has expressed concern over the insufficiency of physical facilities in Techiman North District schools especially at the preschool level. To many, the condition of facilities in the school is a major criterion for selecting school for their children. It is not uncommon these days to see some classrooms full of potholes on the floor comparable to the scenes on the roads. Children scarcely find space to sit or move about. Lack of ceilings makes classrooms extremely hot for learning activities in hot weather. Some buildings have sagging roofs on them. When facilities are not maintained, they constitute health hazards to the users of the facilities. Teachers on their own will not perform effectively without facilities.

Furthermore, a study conducted by Twum (2016) in Shama District revealed that pupils' poor performance has been as a result of poor environmental conditions. It further revealed that the kind of physical facilities available to enhance teaching and learning is woefully inadequate and those available too are in a deplorable state. This phenomenon was traced by Twum from the preschool levels of the schools within the District to become evident that most of the preschool children espouse their interest in the learning process through the kinds of physical facilities available to them in the school.

However, in Ghana, extensive and thorough study has not been carried out to mitigate the incidence of poor physical facilities and its promotion of effective teaching and learning at the preschool levels. For years now, educational outcomes of pupils both in school and out of the borders of the school environment in the Techiman North District has remained very poor and unattractive.

This is because it appear that, the state of physical facilities in preschools within the Techiman North District has always been bad and this seem to be of great worry and concern to pupils, parents and many teachers. There seem to be inadequate provision of appropriate physical facilities. Some of the existing ones appear to be in a dilapidated state, while some seem to lack good maintenance or may not function at all. These problems and concerns necessitated the need for the researcher to investigate into the relevance of physical facilities in improving teaching and learning at the preschool level in the Techiman North District.

### **1.3 Purpose of study**

The purpose of this research was to investigate the contribution of preschool physical facilities on the teaching and learning in the Techiman North District.

### **1.4 Objectives of the study**

The following objectives were set to be achieved through this study:

1. To examine the kind of physical facilities available to preschool children in the Techiman North District.
2. To examine the influence of physical facilities on preschool teachers' satisfaction in the teaching and learning process.
3. To determine the contribution of physical facilities on preschool teaching and learning in the Techniman North District.
4. To examine the challenges teachers face in using physical facilities during teaching and learning process.

### **1.5 Research Questions**

The researcher formulated these questions to guide the study:

1. What kind of physical facilities are available to preschool children in the Techiman North District?
2. What is the influence of physical facilities on preschool teachers' satisfaction in the teaching and learning process?

3. How does the availability or unavailability of the physical facilities contribute to effective teaching and learning?
4. What are the challenges teachers' encounter in using physical facilities during teaching and learning process?

### **1.6 Significance of the study**

The appeal for the developmentally appropriate practices in early childhood education will continue as nations become aware of its importance to the physical, emotional, social and psychological needs of children. Now that children spend more of their time attending mandatory educational institutions, the necessity of appropriate physical facilities should be the most important requirement in early childhood education centres. The issues raised in this study are very important for the establishment and the designing of early childhood education centres which educational planners in Ghana would consider.

Indeed, the findings would be beneficial to the Techiman North District Education Directorate as well as Ghana Education Service who are the educational policy makers and implementers.

Secondly, the findings from this study would also be significant to the Techiman North District Assembly as they plan future infrastructure. The school heads would also benefit from the findings as they are the immediate administrators.

Furthermore, the findings would be important to preschool educators. It would be essential for all the stakeholders of early childhood education to understand that

provision of developmentally appropriate physical facilities to children promote their health, effective learning and retention in school.

Finally, it would be a reference point for other researchers to embark on a study on preschool physical facilities in other schools in the future.

### **1.7 Delimitations of the Study**

This study was limited in its coverage and as a result, it would not be fair to generalize the finding to cover the entire country or even the whole of Brong-Ahafo region since the study covered only Techiman North District. It is therefore suggested that, further studies be conducted to cover a wider geographical area drawing from the finding of the current study, because, the study was limited by its small size geographical boundary.

The study was restricted to preschools in the Techiman North District of the Brong-Ahafo Region of Ghana. The researcher believes that it would have been more appropriate to conduct the study to cover all the preschools in Ghana. However, the study was focused only on preschools in Techiman North District because the researcher has realized that the state of the schools' physical facilities have not been maintained properly.

## **1.8 Organization of the Study**

The study has been organized into five (5) chapters. Chapter one deals with the background to the study, statement of the problem, purpose of the study, objectives of the study, research questions, significance of the study, delimitation of the study and organization of the study.

Chapter two covers the literature review on themes such as the history of preschool in Ghana, concept of preschool environment, types of preschool facilities (indoor and outdoor ) and guidelines for designing preschool learning environment. Others are children in their learning environment, organizational aspect of the environment, impact of physical facilities on teaching and learning.

The chapter Three focuses on the methodology which includes the research design, the population, the sample and sampling technique used for the study, the instrumentation, data collection procedure and data analysis procedure.

The chapter Four is on presentation and discussion of the findings, while chapter five covers the summary of the findings, conclusion, recommendations and suggestions for the study.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Overview

This chapter provides a review of the previous works done in related contexts. Principally, it presents a review of the contributions of physical facilities to teaching and learning at the preschool level and highlights the current state of physical facilities and the challenges faced by preschool teachers in using the physical facilities in the teaching and learning process. The thematic areas have been organized as follows:

- i. Theoretical Framework (Cash Model)
- ii. Development of Education in Ghana
- iii. Concept of Preschool Education from Global Perspective
- iv. The History of Preschool Education in Ghana
- v. Preschool Environment
- vi. Kinds of Physical Facilities available for Preschool
- vii. Influence of School Physical Facilities on Teachers' Satisfaction
- viii. The Contribution of Physical Facilities to promote teaching and learning process at the Pre-school level
- ix. Challenges of using physical facilities during teaching and learning process at the preschool
- x. Conceptual Framework

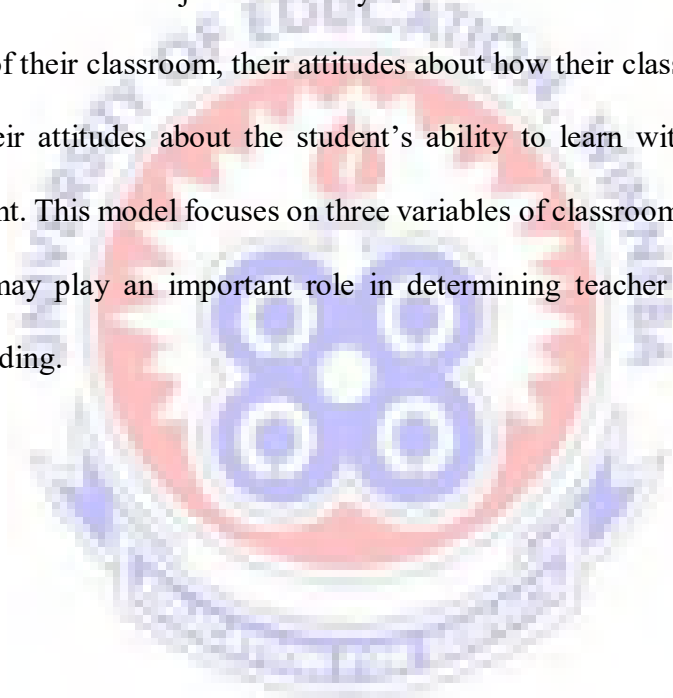


## **2.2 Theoretical Framework (Cash Model)**

This study was designed to explore contribution of physical facilities to teaching and learning in preschools in the Techiman North District. If as the research suggests a relationship can be found between building conditions and teaching and learning, then policy makers and local school divisions can make better decisions about facility management. These decisions could influence teacher performance thereby affecting academic outcomes. Cash (1993) developed a theoretical model that has been used to explain the relationship between building conditions and student academic achievement. Other research studies such as Hines (1996), and Crook (2006), used the Cash model.

Cash's (1993) model suggested that school building conditions could influence the attitudes of faculty. The condition of buildings themselves could have a positive or negative influence on the attitudes of teachers. Building conditions could have a direct correlation to the attitudes of faculty. Buildings that are well maintained contribute to the overall climate of the school. Faculty members expect to work in facilities that are cared for and maintained. They generally equate building conditions to the level of expectations that are conducive to learning. Classroom space and modern equipment contribute to the attitude of the faculty and staff. When necessary equipment is in place and in good repair, the attitude of the faculty is generally positive. When there is adequate space in the facility to address the need of the student population, there are usually positive attitudes from the faculty and staff (Dawson & Parker, 1998).

In proposing this study, a model was developed based on the Cash (1993) model. This model focuses on one particular relationship of the Cash model, the relationship between building conditions and teacher attitudes. The new model suggests that building conditions may directly affect teacher attitudes. The direct impact on teacher attitudes may come from the inability to control temperature, poor ventilation, poor indoor air quality, or inadequate facilities because of building age. Building conditions may also directly and indirectly influence teacher satisfaction about their job. This may result from teacher attitudes about the condition of their classroom, their attitudes about how their classroom makes them feel, or their attitudes about the student's ability to learn within the classroom environment. This model focuses on three variables of classroom conditions. These variables may play an important role in determining teacher attitudes within a school building.



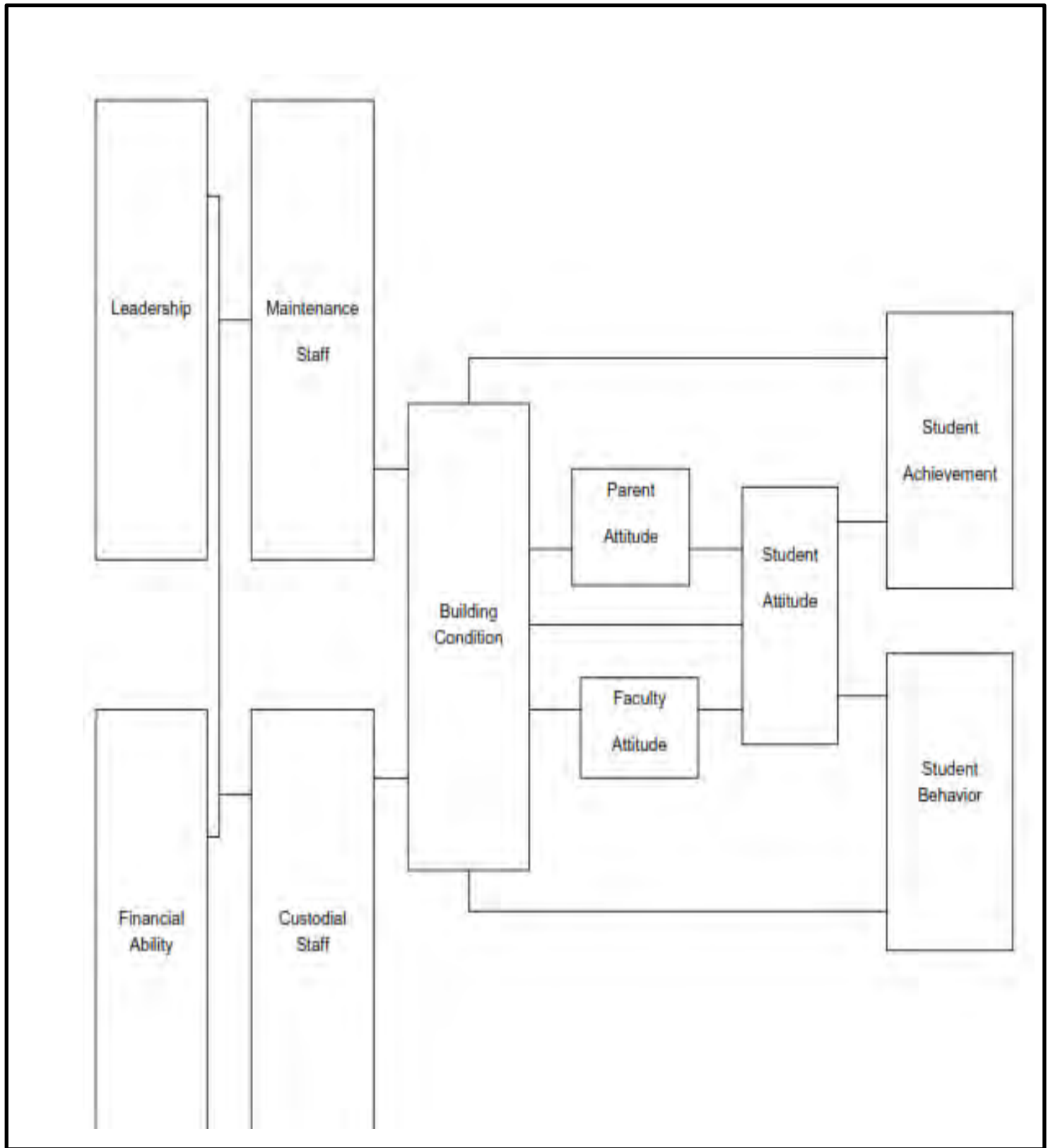
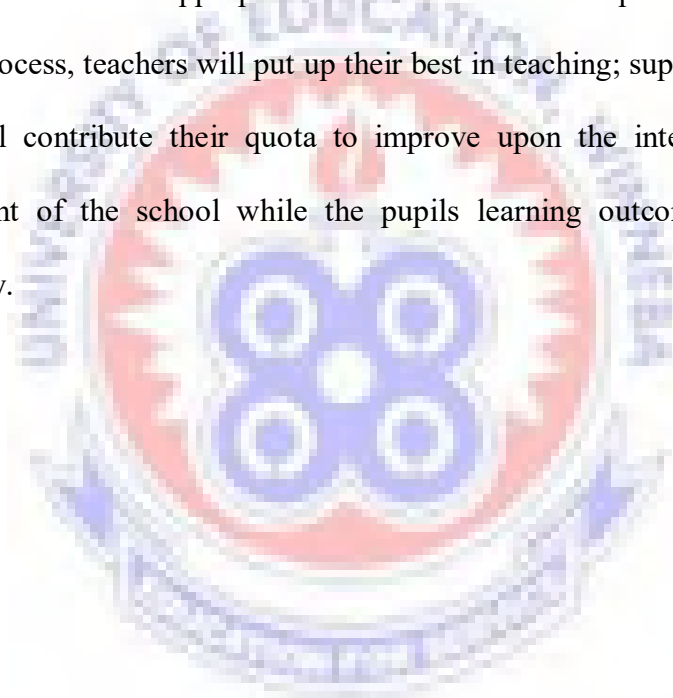
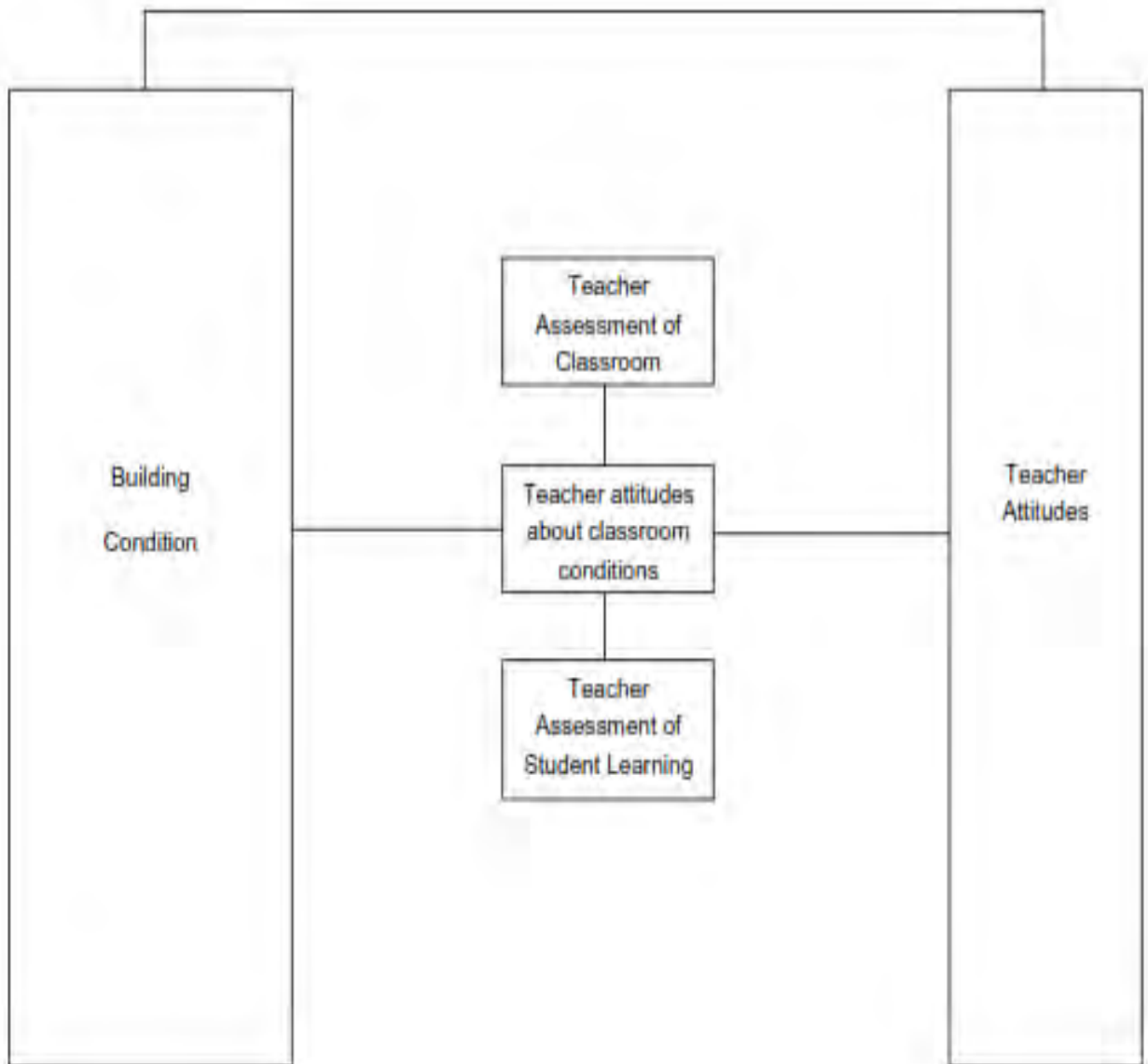


Figure 1: Cash Model (1993)

Figure 1 presents the Cash Model which gives account of how building conditions can ensure good leadership, financial ability and increase the strength of staff. Besides, with well constructed buildings with appealing conditions would ensure positive attitudes of parents, students and staff which would eventually promote educational outcome of students as well as their behavior. This assertion has direct linkage to the study with special emphasis on the fact that physical facilities are one of the essential elements in promoting the teaching and learning of pupils at the preschool level. With appropriate school conditions to promote teaching and learning process, teachers will put up their best in teaching; supporting staff in the school will contribute their quota to improve upon the internal and external environment of the school while the pupils learning outcomes will improve appreciably.





*Figure 2: Effect of building conditions on teacher attitudes*

Figure 2 presents the effects of building conditions on teachers' attitudes. The relationship between building condition and teacher attitudes hinges on teacher assessment of classroom, teacher attitudes about classroom conditions and teacher assessment of student learning. With improved building conditions, teachers' attitudes

will be improved drastically where there would be improvement on teacher assessment of classroom and pupils' learning.

### **2.3 Development of Education in Ghana**

Formal education in Ghana which preceded the colonization came as a private enterprise and was first started in Elmina castle in 1529 by the Portuguese merchants for their mixed parentage children. Later, some schools were opened in other parts of the country by the Catholics, the Basel, the Anglican and the Wesleyans missionaries. Demand for education become very high after the First World War (1914-1918), and during the trade slump (1930 to 1940s), which saw a rise in primary school enrolment from 53,000 to 88,000 by 1940 (McWilliam & Kwamena-Poh, 1975). Furthermore, the dwindling economic fortunes of the country made it difficult for the government alone to meet the high demand for education. Consequently, an encouragement was given for private participation in education provision just before the Accelerated Development Plan (ADP) of 1951 (Kudolo, 1983).

According to Boateng (2003), in the post-colonial or independence era, the educational system has seen several reforms. Since the Nkrumah Government in 1952 envisaged education as a major instrument for national development and introduced the policy of education for all to augment access to education several educational reforms ensued. Particularly, the 1980 reform in the education system was aimed at moving away from purely academic to more in tune with the nations manpower needs.

The latest of such reviews being the Education Review Committee of 2004 chaired by Prof. Jophus Anamoah-Mensah reiterated that even before the attainment of independence in 1957, the country had embarked on educational expansion with the accelerated development plan for education in 1951. This was followed by the Education Act of 1961. Both were meant to increase access in education. This idea of providing practical skills in education was contained in the Dzobo committee recommendation of 1974. The government continues to find ways to improve the quality of education in the country by instituting reforms and reviews of the education industry in the country. Regrettably, the current educational system in Ghana has shifted from practical oriented type of education to the production of students without requisite manpower to harness the available resources in the country for economic growth. For instance agriculture which is the bedrock of Ghana's economic development and other sectors have seen their practical studies relegated in basic schools (MacWilliam & Kwamena-Poh, 1975).

Aggrey (1996) stated that pre-school education before Ghana's independence was provided by the missionaries, villagers themselves or two or three patriotic citizens coming together and establishing one. This means that there was no government commitment to providing pre-school education. What individuals and groups of people could provide in terms of pre-school education was what was available. According to Dogoe cited in Bartels (2004), any meaningful pre-school education can be traced back to the work of the Basel missionaries in

1843 and that individual participation in the provision of KG Education was available by the 1920s.

Woodhead (2006) also added that the establishment of pre-schools aimed to enhance the quality of children's lives is now international and national priority which has been expressed throughout research and policy initiatives, programmes and advocacy. In fact, its global concern lies in the fact that early years growth are critical for physical and physiological development that stimulate intelligence, personality formation and instillation of positive social behaviour in children.

In Ghana, pre-school education is the provision of wide range of services that promote the survival, growth, development and protection. This phenomenon is not new, by tradition, Ghanaians have been demonstrating much effort and devotion to the up-bringing of the child but institutionally, several ministries, departments and agencies have been involved in the up-bringing of the children in the country.

Morrison as cited in Tuntufye (2014) contends that pre-school education in Ghana is attributed to Basel Mission in the 19<sup>th</sup> century which was attached to their primary schools in class one. The Cape Colony Department of Education initiated the syllabus for infants' classes whose content were games, physical activities, sports, English, singing and arithmetic in the year 1930. However, mother tongues were the medium of instruction at that time.



According to Ministry of Education Report (2010), the introduction of private organisation in pre-schools started in the year 1990s where opportunities were given to private organisations such as 31<sup>st</sup> December Women Movement and Plan Ghana International to offer assistance to government. Along these years pre-schools were privately opened by individuals in the urban centres. Not until the year 2000, the centres and programmes were run by the Department of Social Welfare, the Ghana Education Service, proprietors and NGOs.

As matter of its importance to education, the policy was echoed in Anamoah-Mensah's 2007 Education Reform. As a result, many pre-schools were attached to primary one class. As part of this move the Ministry for Women and Children Affairs in their effort, made a strategic development policy to promote Early Childhood Education in Ghana. In that policy plan, the first on the list was to create a conducive environment for the development and implementation of ECCD programmes. It is rather unfortunate that upon series of policies, early childhood environments have not received the necessary attention for the promotion of quality education and proper growth of the child (MoE Report, 2010).

### **2.3.1 Determinants of Education Quality**

It is difficult to define quality of education precisely mainly because of complex nature of teaching-learning process and large number of stakeholders involved in schooling (Mirza, 2003). Various researchers have identified different determinants of education quality. Cheng and Cheung (1997) define quality of

education as a set of elements containing input, process and output of education system. Based on engineering model of education, Adams' (1993) framework of quality consists of institution' reputation, resources/ input, process, content, outputs/ outcomes, and value added.

According to Santos (2007) , a traditional school quality model is characterized by test scores and various inputs including student family background, school characteristics, teacher characteristics and student's innate ability. The indicators of education quality identified by Thaung (2008) include learners, teachers, content, teaching-learning processes, learning environments, and outcomes. As a matter of fact, the value of Thaung's model is yet to be discussed and analyzed in the academic literature.

Another significant model of quality of education has been given by UNICEF (2000) which comprises five dimensions i.e. quality learners, quality learning environments, quality content, quality processes, and quality outcomes. Memon (2003) argues that this framework appears to be more viable and relevant if specific criteria are outlined to assess the quality of education.

## **2.3.2 UNICEF Framework for the Quality of Education**

### **(Elements of Quality Indicators)**

#### **1. Quality of learners**

Students' good health and nutrition, early childhood psychosocial development experiences, regular attendance, and family support for learning.

#### **2. Quality of learning environments**

Physical elements (e.g. school facilities, class size etc.), psychosocial elements (e.g. safe environment, teachers' behavior, discipline policies, non-violence etc.), and service delivery (e.g. health services).

#### **3. Quality of contents**

Student-centered and standard based curriculum, uniqueness of local and national content, and focus on literacy, numeracy, and life skills.

#### **4. Quality of processes**

Indicators relating to teachers and teaching (e.g. teachers' competence, support for student-centered learning, participation based teaching methods, teachers' working conditions etc.), and supervision and support (e.g. administrative leadership, effective use of technology, diversity of processes and facilities etc.)

#### **5. Quality of outcomes**

Pupils' achievement in literacy and numeracy, life skills, health outcomes, outcomes sought by parents, community participation, and learners' confidence, UNICEF (2000). Quality of education assumes that existence of adequate physical infrastructure is much urgently needed. It also assumes that such quality infrastructure should not be compromised by any means for the institution. The quality of infrastructure of the internal & external environment is closely related to the quality of education. Investments in the development of the physical facilities of the institution go a long way in improving quality education.

Basic facilities like school building, electricity, laboratories drinking water are the basic requirements for education. Without these basic facilities quality education is very difficult and almost impossible. For quality education, these facilities are compulsory and mandatory. Inadequate facilities are one of major challenge and hurdle in the way of quality education. Well organized and fully equipped institutions smoothen the way of quality education (UNESCO, 1998).

Quality of education and research assume that existence of adequate physical infrastructure needs. It also assumes however that such infrastructure is managed & maintained in the best possible in the institution, interest & not mainly for the convenience of the managers. The quality of infrastructure of the internal & external environment is closely related to quality of education. Investments in the development of the physical facilities of the institution go a long way in improving quality education. Basic facilities like school building, electricity, laboratories drinking water are necessities for education. Without these facilities

education is very difficult. For quality education, these facilities are compulsory. Inadequate facilities are one of the challenges in the way of quality education (UNESCO, 2011).

#### **2.4 The General Concept of Preschool Education**

UNESCO (2011) was of the view that, preschool education is a remarkable stage for brain development where foundations are laid for subsequent learning. In the view of International Bureau of Education (2006), preschool education is referred to any organized educational provision outside the home for children in the age ranging from one to seven with different terms including early year's education, kindergarten, play group nursery, pre-grade one education, preparatory year's education, zero years education, etc.

In Africa, early childhood education comprises a holistic and integrated approach to the provision of health, nutritional, protection and educational needs and services of the child (Regional Bureau for Education in Africa, 2010). Aside these institutional definitions, other scholars have attempted to bring a concise meaning to preschool education.

In 2000, Bowman and Donovan suggested that Preschool Education does not depict a single entity but rather covers a variety of programmes for children between birth and age 8 (Bowman & Donovan, 2000). The scholars were of the view that such programmes could be taking place in the child's own home, public

schools, child care homes and educational centres. Generally, early childhood education is described as the services and care for children from birth to age 8 (Bredekamp, 2011; Daragh 2010; Deiner, 2013).

However, the Organisation for Economic Co-operation Development (2011) was of the view that care and education are inseparable concepts and, therefore, defined early childhood education as:

*“An integrated and coherent approach to policy and provision which is inclusive of all children and all parents regardless of the employment status or socioeconomic status of which the policy may fulfil a wide range of objectives including care, learning and social support” (p.14).*

According to the Report of the President of the committee on Review of Education Reforms in Ghana (2002), pre-school in Ghana refers to any type of education given to the child from age 3 to 5 years, after which the child is enrolled in the formal school. Pre-school education is the concept of educative programmes put in place to get children ready for formal school or (before grade one) for children up to five years of age (Morrison, 2001). Here, it means sets of experiences through which the child goes to bridge the gap between home and school. The activities are organized by institutions and supervised closely by a teacher. A child must be under six years to be in the pre-school.

Sam (1973) also saw pre-school as the training that the child receives during the age before age six. Sam further added that pre-school education is either given at home or in the nursery school. Specifically, pre-school education is the education

which begins at age four and ends at about age six. It is likened to the foundations, upon which future education is built (Kudolo, 1983).

One may conclude that though pre-school semantically brings to mind any form of education that takes place before the formal schooling, it is the one provided in the two latter years (ages four and five) which is referred to as the “ children’s garden” or Kindergarten. Here the founder Frederick Froebel, likened children to flowers growing happily in a garden (Gorden & Brown, 1989). In this type of education, children go to the learning centre for three to six hours in a day (UNESCO, 1989). In Ghana it is the few years (usually two to three) which some children go through before entering primary school. The education reforms launched in January 2006, recommended a two-year preschool education for all children before primary class one.

#### **2.4.1 The Policy of Preschool Education in Ghana**

Ghana has made many attempts to reform the model of schooling bequeathed to it by the colonial masters. According to Mankoe (2002), the attempts came in the forms of reforms, review committees and reviews. All the reforms followed at the tail of grave dissatisfaction among the populace of the state of affairs at the education front. The reforms have largely aimed at improving access and efficiency in the delivery of education and, above all, making education more relevant to national development need. Dare (1998) said that what emerges from the reforms is frustration where youngsters graduate without minimal basic skills. Dean (1990), talking about the inadequacy of leadership, said it is the

institutional leadership that determines what happens and, therefore, leadership should be held responsible for the lapses in education.

Obeng (1996) urged teachers to help reverse the falling standard of living through curricular reform. Chiefs and other concerned citizens contributed to what would make the Ghanaian education a good one. Wiafe (2000) held a meeting with teachers with a view to identifying causes of poor performance of pupils in order to find a solution to it. He complained of the poor educational standards in his traditional areas.

In 1987, the Education Reform Committee re-echoed the need for Kindergarten Education which was recommended by the Dzobo Committee of 1974 (Mankoe, 2002). When the situation was found as not be the best, another Education Reform Review Committee was set up in 2002 by the government. The content and structure of Ghana's education was assessed. Among their recommendations was the introduction of a two-year kindergarten education.

The recommendation on kindergarten education was accepted and the policy was specifically captured thus; recognizing the crucial role that pre-school education plays in the formative years of the child, especially its potential for overcoming the educational disabilities of children from less favored family backgrounds, government has decided that Kindergarten Education should progressively become part of the Universal Free and Compulsory Basic Educational structure (White Paper on the Report on Education Reform Review, 2004).



## **2.5 Pre-school Environment**

In a broader sense, environment refers to all the conditions surrounding individual or a community. Such conditions encompass climates, soil, water and air. Environment, according to Aguiusiebe (2004) encompasses all the existing elements that surrounds and influences man which includes physical, biological and social attributes. Therefore, environment could be viewed as the external influence affecting organism's life and development. However, environment in the context of school refers to environment in which learning occurs. In this sense, pre-school environment could be seen as the learning place where the learner learns and interacts with learning facilities in order to be socialized and face the challenges in the world. Eze (2010) reviewed that pre-school environment includes laboratory, library facilities, qualified teachers, furniture, school building, good administrative management, teacher pupil relationship and school location as well as its state or condition.

According to Cambridge International Dictionary of English (2014), condition is the particular state that something or someone is in. The conditions of a situation are all the different influences which have an effect on it. In generic meaning or sense, the conditions of teaching and learning may include the social relations, physical environment, classroom situations, psychological influence and other related issues in the area. In school situation it involves teacher-pupil relationship, instructional materials, parental involvement, atmospheric situation and teacher-teacher relationship.

According to Nyamwange (2012), many factors operate to bring about pupil learning and achievement. The child's socio-economic background, the curriculum, the instructional materials, the language used, the time developed to instruction and homework, the climate and culture of the school, the teachers and pupils motivations, the teachers' perceptions of the ability of the class, teachers' level of qualification and status, their behaviour and teaching practices. Others include teachers' working conditions, teachers' environment, teaching aids, students' textbooks, teacher and pupil absenteeism, teacher preparation and lateness; and the strength of head teacher all intervene and influence teaching and learning in basic schools. Teachers are the key element in the teaching and learning process and they constitute the agent of transmission of knowledge and skills in school.

According to Mgbodile (2004), school environment is made up of both material and non-material resources in the school. School environment has been a contributing factor for a successful acquisition of learning. Belanger (1996) realizing the importance of learning environment to the learner noted that people's educational life history are influenced not only by the learning opportunities but the quality of the learning environment. Interestingly, Okafor (2004) was with the view that learning is an intimate transaction between the learner and his environment.

Bruner (1966), realizing the importance of environment to learning stated that:

*“Growth depends on the internalizing events into a storage system that correspond to the environment; it is this system that makes possible the child increasing ability to go beyond the information encounter on a single occasion”*(p.17).

Keep (2002) also added that pre-school environment such as walls; ground, light, mechanical systems serve as active contributors to the child’s learning process. It is, therefore, true that the environment through which the learner acquires knowledge and skills has major impact on the cognitive achievement of the learner. It is generally accepted that the child learning in a conducive environment excels the school limitations (Nwizu, 2003).

Environmental challenges differ considerably from schools across countries and communities, however, the physical environment as an essential component of the environment in promoting the child health, teaching and learning has been a management challenges particularly in the developing countries (Nwizu, 2003). Therefore, provision of developmentally appropriate environment to pre-school is a way of promoting proper child growth and effective teaching and learning. The developmentally appropriate environment not only talk about health, safety, social, emotional, curriculum and teacher-parent involvement but as well as the physical facilities which is the focus of this study (Bredekamp & Copple, 1997).

## **2.6 The Kinds of physical facilities available for pre-school children**

According to Moore (1987), the physical facilities comprise the inside and outside facilities of the pre-school which are characterized by location, accessibility, safety, flexibility, and visibility. The physical facilities of the pre-

school consist of the selection and the arrangement of materials that are accessible to the child. The characteristics of the pre-school suggest that, quality physically planned and designed environment of the preschool, has a great impact on the child's cognitive and social behaviour (Moore).

According to Johnson (2000), the school's physical facilities convey messages to the children influencing their attitude and behaviour. In the same way, Uzzell (1988) earlier on noted that the design of the pre-school physical facilities should facilitate, support and encourage the child's developmental growth. Therefore, Uzzell provided three elements of quality pre-school environment that should contain physical facilities as

- i. **A place of doing:** the place that offers opportunity for physical activities, a place of thinking-a place that provide intellectual stimulation,
- ii. **A place of feeling:** a place that looks colourful, attractive, beautiful and interesting, and
- iii. **A place of being:** a place which allows them to be of themselves in private and public.

In addition, Gestwicki (2014) indicated that physical environment of the infants must be planned in consideration of nature and the needs of the infants. Therefore, the areas should have opportunity for the children to manipulate materials that would stimulate their senses. In this case, it is understood that the pre-school physical environment should provide trust, attachment, mobility, sensory

exploration, language, health and safety to the child. Enriched physical environment consists of both indoor physical facilities and outdoor physical facilities (Centre for Early Childhood Development Education, Kenya [CECDE], 2005).

According to CECDE (2005), the indoor and outdoor physical facilities include materials and equipment, well-maintained, safe, available, accessible, adaptable, developmentally appropriate, and offer a variety of challenging and stimulating experiences for the child. The OECD (2010) also was with the view that, the physical facilities of the pre-school comprise the inside and outside facilities that furnishes the children with rich experience, rich play and rich teaching.

### **2.6.1 Indoor physical facilities**

The indoor physical facilities structures of the pre-school should provide well balance atmosphere between the children's learning approach regarding security, safety and appropriate minimal level of risk. The indoor space should provide a positive sense of control as the child interacts with materials, events and ideas while learning (CECDE, 2005). The indoor physical facilities also known as the learning facilities are the materials the children spend their time playing and learning with in the classroom, which does not include staff rooms, toilet, offices or laundry rooms.

The indoor facilities should be materials that stimulate curiosity, inspire creativity, be varied and dynamic, provide a context for activities and play, encourage exploration and holistic learning and development (CECDE, 2005).

It is, therefore, essential to note that some children take the indoor facilities as their learning place that give them a lot of activities, rest, eating and sleeping. In this case, the indoor physical facilities should be resources which are suitable, good in shape and accessible to the children. From the above perspective, the indoor facilities need to be planned well so that flexible and suitable range of activities is provided.

According to CECDE (2009), the indoor facilities for preschool should be developmentally appropriate, challenging, diverse, creative and enriching experiences for all children. Therefore, the setting should provide a variety of different spaces and areas that would serve the needs of all the children. For this reason, the CECDE provide designated areas that could be assigned in the preschool indoor facilities for social activities and interactions:

1. **Floor area** - carpeted section, adequate storage for materials (soft toys, balls, blocks, etc.
2. **Book area** - quiet area of the room, natural light, comfortable seating, and puppets for story-telling, large books in a variety formats, etc.
3. **Sensory stimulation area** - wide variety of musical instruments which are culture context, equipment ( e.g. tape recorder), different music, wall-mounted mirrors, treasure baskets, scented materials, appropriate storage, traditional pre-school rhymes, etc.

In another perspective, Higgins, Kumbasa, Lamimbi and Tongo (2005) also provide the following for the design of the indoor facilities for the pre-school children:

1. The areas should be organized for easy 'flow' between activities , creating a sense of order, feeling of belonging and opportunity for both solo and collaboration with others as they choose.
2. Existing features such as windows and platform should allow children to access the view while nooks and crannies provide retreat space.
3. Visible boundaries are important to separate different kinds of activities to enable children to make their choices.
4. Choices of activities, materials and equipment should be visible, accessible to make children make their own goals and construct their own knowledge.
5. The 'aesthetic' of the indoor space should promote constructive activities and purposeful exploration with colours, natural lights and natural objects

According to Higgins et al. (2005), the indoor facilities are the basic structural units of the education system that clearly affect the school design and objectives of the school. This therefore connotes that, 'beautiful' facilities promote effective learning and healthy development than 'ugly' indoor facilities.

Therefore, a preschool needs to have these physical facilities in order to promote children's learning. As such, lack of these physical facilities in any preschool

setting is likely to impede children effective learning in the learning environment.

### **2.6.2 Factors to consider when providing indoor physical facilities at the Pre-school level**

According to Stuart (2015), there are several factors to consider when arranging the indoor facilities for pre-school. Stuart believed that the requirement to the selection and the planning of the pre-school indoor facilities should be related to the safety and the adequacy of the childcare facilities. Review of earlier studies on pre-school indoor facilities suggests that there are certain things which need to be considered when creating indoor facilities for pre-school children.

For example, Greenman (2005) suggested considerable factors when providing for indoor physical facilities as follows:

#### **i. Design and location of the building**

The planning of the pre-school building should be family friendly, with high quality facilities that support integrated activities for infants, toddlers, and young children. The building should be at a safe and secure area with toilet, and natural facilities that are culturally appropriate.

#### **ii. Windows**

Studies have revealed that children love to look out of windows (Moore, 1997). Therefore, the buildings should have open windows that will give children visual access to the exterior facilities as well providing natural light to the interior space



of the building. However, the windows should have screens or breakthrough glass panes to prevent the children from falling through the windows.

### **iii. Doors**

The buildings should have double doors, the main door and the emergency exit. The doors should be sited directly to the outdoor area to ensure a good flow. The door as an entry point of the layout of the classroom is transition area that offers parents opportunity to say goodbye to their child and also get vantage to watch classroom activities.

### **iv. Lighting**

Natural light in the pre-school building is a hallmark of nurturing quality facilities (Olds, 2001). Olds was of the view that lighting has effect on mental and visual health of the child. It, therefore, affects the aesthetics of the room. According to Kaare (2003) “creating good lighting is not by a matter of providing enough lighting but lighting that ultimately achieve a desired look and better feeling, therefore, the lighting should influence what we see and even make it beautiful” (p.5).

### **v. Acoustic control**

Pre-school children are characterized with busy activities such as role play, building blocks, carpentry, painting, etc. it is necessary for them to achieve acoustic control to avoid irritation, strain and distraction.

### **vi. Colour**

Colour is the one of the powerful instructional medium in the pre-school learning centres. Scott (2011) posited that colour promote warmth, happiness, tranquillity and excitement. Therefore, Scott was of the view that one cannot mention colour without painting since the beauty of colour comes out of painting. Talking about colours, Bredekamp and Copple (1997) suggested that quilts on walls give colour and designs, displays of children's painting, boost their self-esteem whiles plants add colour to the facilities. Indeed, colours found in indoor and outdoor of the pre-school classroom maximize information retention and also inspire children's participation.

#### **vii. Furniture**

Provision of furniture in the pre-school classroom is very important Scott, 2011). The suitable furniture for pre-school must be appropriate sized for their age. According to Olds (1997), the furniture must be colourful, lightweight and smooth rounded edge for safety. While Scott was with the view that colourful and comfortable furniture give children calmness, relaxation, and happiness, Olds posited that yellow colour furniture elicit children feeling of liveliness, energy and excitement while red and orange colour attract children attention. Therefore, designers should focus on colours similar to the walls but ideally, calming green and blues are appropriate.

#### **viii. Floors**

The pre-school floor should be easy to clean and appropriate for all children activities. The floor should be comfortable for seating and allow children freedom to participate in all activities.

**ix. Wall displays**

In the pre-school physical facilities, wall displays are very essential. It is one of the teaching tools; hence, it should be meaningful to the children but not pleasing to adults. Items to display are the photos of their family and children, art made by the children, realistic presentations of natural and people of various races, cultures, ages, genders and abilities.

**x. Texture**

Texture is another important attribute of the pre-school indoor facilities. The texture materials include bricks, wood, metal, glass, ceramic, rubber bumpy, plastic clothes, basket, pillow, etc. the texture creates a homelike facility and also reflect the culture of the child. According to Olds (2001), different textures are necessary because it gives different perceptions experiences.

**2.6.3 Outdoor physical facilities**

Outdoor pre-school facilities are part of the physical facilities that provide children opportunity to be in touch with nature and experience the natural weather and the climate. The outdoor facilities offer a vast collection of potentials that are not available in the indoor learning facilities. The outdoor facilities provide play spaces in a natural setting such as plants, trees, edible gardens, sand, rocks, mud, water, and other essentials from nature. The natural facilities provide open-ended

interaction, exploration, and discovery, spontaneity that develop children physical, social, emotional, psychological and cognitive capabilities. Outdoor learning facilities provide varied and open-ended opportunities for learning, problem-solving and social development (Greenfield, 2004).

Jeffrey and Beasley (2012) state that outdoor facilities should consist of the stepping stones, different textures, paths, poles and pipes, logs for balancing and climbing frames. Much as the indoor facilities have interest areas so as the outdoor should have different play spaces to allow children to have individual or small group's plays. According to Jeffery and Beasley spaces that could be created for children's play are cubby houses/tents, a sensory garden, a space for sustainable water play, a place for children and caregivers meet for group discussion, space for gross motor play and ball games, space for push and pull, quiet spaces. It is indicated that outdoor space is very important in the pre-school learning centres (Brown, Garry, Turnkey & Jensen, 2009). In fact, from the review so far, there is no formula for designing outdoor facilities for pre-school. Hence, the design depends on the availability or the size of the space and the way the space would be configured to suit the services of the children and the age of the children.

#### **2.6.4 Factors to consider when providing Outdoor Physical facilities at the Pre-school level**

From the review of Spencer and Wright (2014), Keeler (2008) and Brown et al (2009) the following are the things to consider when creating outdoor physical facilities for pre-school children:

**i. Multipurpose open space**

The pre-school outdoor space should have a multipurpose open space that will engage children in different gross motor activities and skills development such as running, jumping, crawling, and rolling. The multipurpose space should be filled with multipurpose equipment like balls, beanbags and hoops. Ideally, the open space should be having stage on performance area to encourage children to perform drama.

**ii. Play equipment**

This equipment includes climbing structures, slides; beam balance and springs design in most play grounds for children to enjoy themselves.

**iii. Natural elements**

This is a well-designed natural landscape that contains variety of natural elements like trees, stumps, boulders, long grass, water and pebbles. It could also have flowering plants, shrubs and vines. The natural element spaces serve as a welcoming and beautiful place of interest and for adventure. According to Spencer and Wright (2014) children need to take risk in safe facilities. Therefore, such places challenge children's physical, social and cognitive abilities in more complex activities.

**iv. Wheeled toys**

Wheeled toys such as tricycles, scooters, wagons and push toys can be placed in the outdoor facilities. The wheeled toy is a game that challenges children with

different ability levels. It helps children experience speed, negotiate pathways and cooperate with others (Brown et al., 2009).

**v. Sand play area**

The outdoor facilities should have large sand areas that provide ample room for the children to explore and discover the qualities of sand or mud, and encourage peer interaction (Spencer & Wright, 2014). The sand area provides children a variety of dramatic play that promotes their imaginations. According to Brown et al (2009) the sand area is an important play area that fosters scientific learning.

**vi. Water play area**

The water play space is another scientific learning area for children to discover things for themselves. According to Spencer and Wright (2014), the water play area such as water fountain, small waterfall, temporary or permanent water hose, small wading pool, water table and water to sand digging area encourage children to discover objects sinking or float.

**vii. Decorative elements**

A high-quality pre-school outdoor play area should include decorative elements like banners, wind chimes, wind socks, statues, flags, cultural artefacts or decorative objects such as wreaths, fence weaving, murals weather vanes that add visual and auditory interest to the facilities (Debord, Cherry, Fisher & Rooney, 2005). According to Natural play scape designer, Keeler (2008),

talented local artists such as painters, sculptors and craftspeople could personalize the outdoor facilities, making it welcoming, attractive and unique place for children to enjoy.

**viii. Music and Movement space/ Acoustic play area**

A high-quality pre-school outdoor facility can include drums, rain sticks, chimes, and other musical instruments (Debord et al., 2005). According to them such play area encourages children to explore different natural sound found in the facilities.

**2.7 Influence of School Physical Facilities on Teachers' Satisfaction**

University of Arizona Life Work Connections (2013), employees seek to be treated with respect by those they work with. A hostile work environment with rude or unpleasant co-workers usually has lower satisfaction. Managers and supervisors need to step in and mediate conflicts before they escalate into more serious problems requiring disciplinary action. Employees may need to be reminded what behaviours are considered inappropriate when interacting with co-workers. Effective managers should know their employees need recognition and praise for their efforts and accomplishments. Employees also need to know their supervisor's door is always open for them to discuss any concerns they have that are affecting their ability to do their jobs effectively and impeding their satisfaction at the office.

Carribbean Community Secretariat (2011) observed that the provision of adequate physical resources including facilities, equipment and maintenance can

help in influencing attitudes and facilitating program success. Lack of facilities makes teaching ineffective for the teacher and this demoralizes the teacher no matter how determined he/she may be in achieving certain goals. In such cases the teacher is left to teach without essential facilities and where possible forced to improvise in order to make learning effective. This becomes more difficult especially in the teaching of technical subjects and science subjects, which are even compulsory in the Kenyan education system. This affects performance of the students and also demoralizes the teacher. While the vice versa is true.

Hill (2010) stated that employees spend so much time in their work environment each week and therefore it is important for companies to try to optimize their working conditions like providing spacious work areas rather than cramped ones because adequate lighting and comfortable work stations contribute to favourable work conditions. Providing productivity tools such as upgraded information technology to help employees accomplish tasks more efficiently and contributes to teachers' satisfaction as well.

Wycliffe *et al.* (2013) reported that the objectives of the 8.4.4 system were to equip learners with adequate intellectual and practical skills to enable them cope with the challenges of life in urban and rural areas. However, the system was rushed for implementation before proper groundwork and preparations were done. The teachers expected to implement it were not trained and the necessary facilities like the workshops for technical subjects, Home Science rooms, laboratories for science oriented subjects and libraries were not either not build or poorly equipped. This made it very difficult for the teachers to teach without



these facilities while others were forced to improvise them. This made the teaching very challenging resulting to low morale among the teachers. As a result, the system failed to achieve its objectives.

Kelechukwu (2011) pointed out that educational administrators in schools should apply administrative theories in carrying out their administrative tasks. When the application of these theories is neglected, the results may be made manifest through strained relationships between the head, inefficiency in the pre-current and use of resources and consequently poor academic performance are likely to occur and thus may affect the teachers' motivation.

Zingeser (2012) reported that career satisfaction and teachers' satisfaction both relate to happiness with one's work life, but contribute to contentment in separate ways. Career satisfaction may be defined as the level of overall happiness experienced through one's choice of occupations. Teachers' satisfaction relates to one's current work situation and is dependent on many factors, including the marketplace, work conditions, location, and other dynamic influences. An individual may feel very certain of having made a correct career choice but be experiencing an unsatisfactory current work experience. Conversely, a current situation may have many positive components but not be fully satisfying as a career choice.

Fatima (2012) reported that the role of teacher is pivotal in education and training. It is on his teaching and guidance that the future of countless generations depends. If a teacher is satisfied with his job, much can be expected from him. A satisfied teacher might be successful in improving the quality of his/her teaching and

improve the quality of students as well. Causes of stress are of much importance in establishing a satisfaction level. A teacher should be knowledgeable, humorous, flexible, upbeat, clear and concise, open, patient, a role model, able to relate theory to practice, self-confident, diversified in student's preparation, well groomed and having good personal traits in order to come close to perfection. Education is the backbone of a nation and teachers are the builder of that backbone. So teacher's satisfaction plays a vital role behind this. A large number of teachers like this profession, which impacts on their satisfaction. It differs because of male and female teacher's perspective. Female teachers are more satisfied with their professional role as a teacher than their male counterparts. The teachers identified some factors which effects their satisfaction, like, supervision (especially by head teacher) working environment, interpersonal relationship with college, organizational policy like promotion and salary.

Many factors motivate individuals to pursue a teaching career, including the desire for personal growth and continued learning, to have a positive impact on others' lives and contribute to society, and to attain stable, secure employment (Mansfield *et al.*, 2012). Kabango (2013) reported that teachers' satisfaction is impacted by an employee's views about the fairness of the company wage scale as well as the current compensation she may be receiving. Companies need to have a mechanism in place to evaluate employee performance and provide salary increases to top performers. Opportunities to earn special incentives, such as bonuses, extra paid time off or vacations, also bring excitement and higher teachers' satisfaction to the workplace. Compared to other professions with the

same education qualifications, teachers are the least paid people in the society hence the profession being regarded as useless.

Mansfield *et al.*, (2012) further found that teachers did not enter the profession for the money, but rather the intrinsic satisfaction of working with children. Yet, when they left the profession, teachers reported low pay as the second reason for leaving following the lack of efficacy. The combination of discovering teaching both difficult and financially unrewarding discourages longevity in the profession, citing reasons of dissatisfaction. They further found that high beginning salary levels attracted well trained individuals into teaching and that higher average salaries reduced teacher turnout rates.

Hightower (2011) reported that even though having a positive impact on students' achievement appears to be the prime motivator of teachers, salaries also play an important role. Research shows that teacher behaviour is strongly affected by salary levels including the decision to enter the profession, the decision to stay in a school district and the decision to remain in or leave the teaching profession.

Baird (2013) describes a teacher's chief difficulty as poverty. There are some big prizes at the end of the profession and a few lucrative side-lines, but the average teacher in every land must be resigned to a life of genteel poverty. This makes teachers live a poor life full of bitterness and mockery from their fellow colleagues who have landed in better paying professions. This may demotivate the teacher making them inefficient in their work and developing a dislike for their job.

Lee (2014) pointed out that it is absurd to maintain within mass education the objectives of a system designed for the education of the elite. A few years ago, holding of University degree or secondary education qualifications assured students a certain social status, with the corresponding remuneration. One of the effects of present-day mass education is the impossibility of guaranteeing all students a commensurate with their qualifications. The change also affects levels of motivation the teacher can expect and utilized in his/her students. Many of those who teach have to cope with this uncertainty by pointing out that circumstances have indeed changed, thus making redundant their desire to work objectives, which no longer correspond to the circumstances existing in the society today.

Nganzi (2013) reported that teacher's satisfaction is unavoidable phenomenon in school environment. Teachers need to be motivated and reinforced in their career if they are to execute a quality job in schools. Dealing with a workload that is far too heavy and deadlines that are impossible to reach can cause satisfaction to erode for even the most dedicated employee. Falling short of deadlines results in conflict between employees and supervisors and raises the stress level of the workplace. Many times, this environment is caused by ineffective management and poor planning. The office operates in a crisis mode because supervisors do not allow enough time for employees to perform their assigned tasks effectively or because staff levels are inadequate.

## **2.8 The Contribution of Physical Facilities to promote teaching and learning process at the Pre-school level**

The pre-school facility is created for the child's healthy growth and development through critical thinking skills. This means that facilities must nurture child's ability to participate deeply in individual and group activities. It is, therefore, understood that the physical facilities provide opportunity for children to establish their own goals through purposeful play. For children to achieve their goals, a carefully planned instruction, materials, furnishings and daily practices which complement with different range of interpersonal relationships (Mage, 2014).

It is believed by Bernstein (2006) that pre-schools that are well structured will gear up positive expectations that promote good socio-political, socio-economic emancipation and enhancement of effective teaching and learning. The review of the physical facilities and effective teaching and learning in the pre-schools linked this study to international studies of Bernstein (2006) who revealed that pupils in good structured classrooms have a higher achievement than those in poorly maintained schools in the United States of America.

In Nigeria, Chuma as cited in Mage (2014) noted that teachers found it difficult to move round and assist needy children in overcrowded classrooms and therefore, affect teaching-learning process. In a wider scope, it has been noted that the physical facilities have great influence on teaching and learning in Brazil, China, Botswana, and Uganda (Heyneman & Loxley, 1993).

Recently, it has been revealed that inadequacy of the factors of the physical facilities such as playground, toilet, furniture, libraries, etc. significantly affect the teaching and learning. In the pre-school, the physical facilities should support children's social interactions, planned and unplanned activities as well as structured and unstructured experiences. In fact, it is understood that different learning programmes need different learning spaces that can meet all learners' needs in the school. In order to achieve effective teaching and learning delivery in the pre-schools, teachers must maximize the potentials of the physical facilities in the context of the school facilities (Mage, 2014).

The provision of physical facilities in the preschool is a fundamental resource in providing effective instruction and activities to achieve the goals of any preschool curriculum. Both indoor and outdoor physical facilities contribute to the children's well-being, happiness, creativity and also developing their independence (Blum, 2005). From Shell's (2015) point of view, the physical facilities of the indoor and outdoor environment contribute to the teacher characteristics such as time assigned to the room, organizational activities, school assignment and mediate satisfaction.

The child's learning centre must involve both planned and unplanned activities, as well as involving structured and unstructured activities and play for the day (Shell, 2015). This is what both indoor and outdoor facilities contribute in the preschool learning centres. For instance, colour, lighting and ventilation and acoustic of the physical facilities contribute to the health of the children. In support of this assertion, Abdou (1997) stated that the quality of light in the environment relates

to health and productivity of the occupant. Olds (2001) also added that lighting has effect on mental and visual health of the child.

It is not only the colour that contributes to the happiness of the children but quality air also counts. Even though, Mendell and Heath (2005) were of the view that air quality has effect on the pupils' achievement. They however, indicated that there is lack of a strong connection between air quality and pupil's performance. According to Schneider (2002) higher ventilation rates increases children learning and suggested that poor air quality reduces children's health, leading to several absenteeism, and lower student performance. While Wargocki and Wyon (2007) revealed that better air quality reduces stress.

Seyedehzahra, Tawil, Abdullah, Surat and Usman, (2011) concluded from their study that children access to quality and suitable physical facilities especially the natural facilities develop self-confidence, responsibilities, sense of pride, improve their experience to learning sharing, self-awareness, self-discipline, communication team working and social skills. In fact, the colourful materials give children a sense of happiness and excitement (Scott, 2011; Olds, 2001).

Again, it contributes to the quality of the children's learning and experiences. It is very important that the choice of both indoor and outdoor facilities, such as materials, spaces, layout, air, and light quality and even access to a wide range of experiences in the indoor and outdoor explicitly or implicitly have impact on the quality of the children's personality and learning opportunities available to the children in the school.

In the nutshell, the physical facilities contribute to the child's four main development domains - social, physical, cognitive and emotional well-being. Barnardos (2008) reported that physical facilities contribute to the development of learning by helping the educators to identify what and how children learn, revealing children's needs and the type of activity that support individual learning needs. Hodgeman (2011) also declared that a rich and varied physical facility in the environment gives children the confidence to explore and learn in a secure and safe environment. In all, Akhiero (2011) summarized the contribution of physical facilities in preschool learning environment as:

- i. Development of social, physical, and cognitive domain of the child.
- ii. It promote children sense of belongingness
- iii. It provide emotional security
- iv. Give space for individual needs, abilities and interest
- v. Develop and promote children's curiosity

The importance of both indoor and outdoor facilities for children's play and leaning is a key practice that preschool educators need to demonstrate in the implementation of developmentally appropriate practices for early childhood education (ACECQA, 2011).

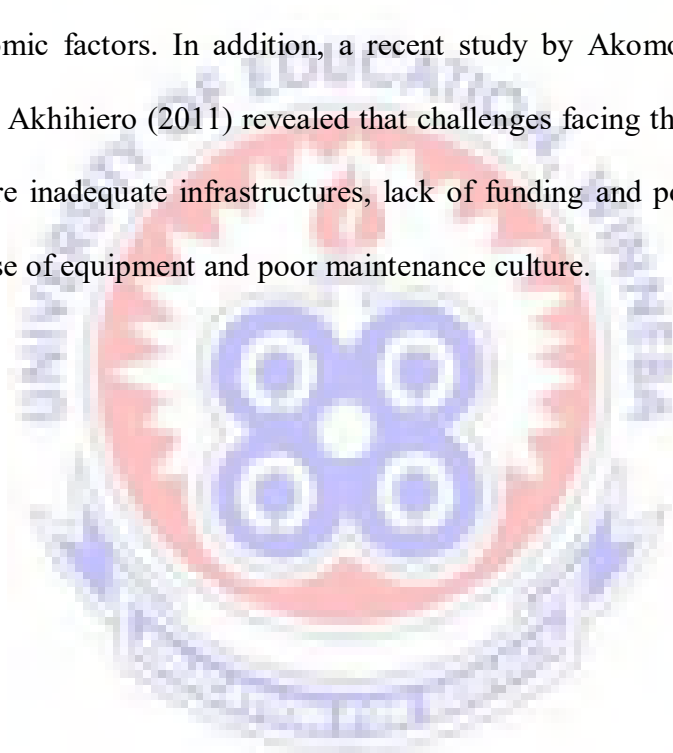
## **2.9 Challenges of using physical facilities during teaching and learning process**



According to Offenheiser and Holcombe (2003), the preschool physical facilities are integral part of the school environment responsive to the effective teaching and learning. The physical facility consists of physical structure and the variety of building systems, such as furnishing, materials and supplies, equipment and information technology as well as building grounds, athletic fields, playground and areas of outdoor learning. Despite the importance of the physical facilities in the preschools, there are a number of challenges that have continued to pull down its effectiveness. Most preschools lack adequate teaching and learning resources and facilities suitable for preschool learning environment. These inadequate facilities include proper ventilated classroom, furniture suitable for children, safe clean water, playground, toilet, urinals, and play materials (Akomolafe & Adesua, 2016).

Szuba and Young (2003) pointed out that facility age as a problem challenging school facilities, but there is growing challenge of maintaining school facilities at a level that enable teachers to meet the needs of 21<sup>st</sup> century learners. It is obvious that some new school facilities support the current needs of the learners while many older buildings and facilities do not support the current needs of education. Indeed, construction of school facility takes a few months or years but usage of school facility takes several years. It is essential to note that maintaining a school, not only pay for bricks and mortar but also student and staff well-being. Thus, effective school maintenance protects capital investment, ensures the health and safety of our children, and support educational performance.

According to Szuba and Young (2003), it is not surprising that facilities problems arise at all educational levels, preschools through post-secondary and all sites in both developed and developing countries. As such, challenges occur in both new and old facilities even though the type of concern differs. UNESCO (2007), believed the cause of physical facility challenges may be attributed to extreme environmental conditions, and lack of maintenance funding, maintenance staffing, training and management practices but possibly, not geographical or socioeconomic factors. In addition, a recent study by Akomolafe and Adesua (2016) and Akhihero (2011) revealed that challenges facing the usage of school facilities are inadequate infrastructures, lack of funding and poor knowledge of practical use of equipment and poor maintenance culture.



## 2.10 Conceptual Framework

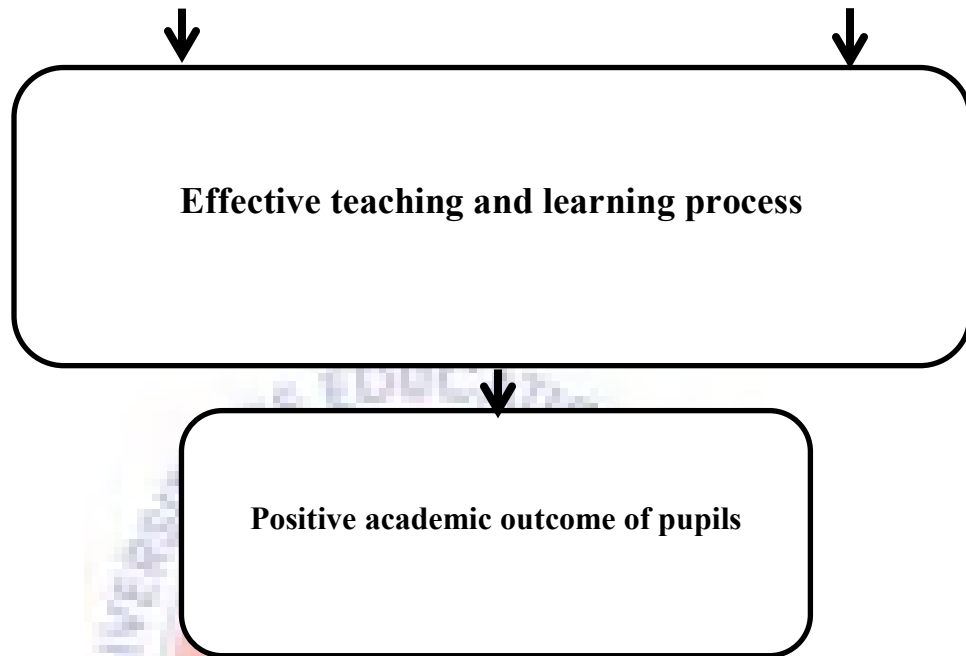
The conceptual framework illustrates the concepts and pictorial representation of the study. It, therefore, describes how the availability of physical facilities contribute to pupils' academic achievement.

### **Indoor physical facilities**

Lighting, windows, reading and writing materials, teaching and learning materials etc

### **Outdoor physical facilities**

Accessible space, toilet and urinal facilities, water, center for reading and writing, field for recreational purposes etc.



*Figure 3: Conceptual Framework on the contribution of physical facilities to improve the teaching and learning process*

Figure 3 presents the conceptual framework on the contribution of physical facilities to improve the teaching and learning process. The framework suggests that both indoor and outdoor facilities promote effective teaching and learning process which might eventually result in positive academic outcome of pupils. Indoor facilities such as lighting, windows, reading and writing materials, teaching and learning materials as well as outdoor facilities such as accessible space, toilet and urinal facilities, water, center for reading and writing, field for recreational purposes can help teachers to give their maximum support in the classroom to improve pupils' academic performance.

The concept framework relate with the study with emphasis on the objectives set. The first objective highlighted on the kind of physical facilities available to preschool children and the framework revealed both indoor and outdoor physical facilities. Their availability or unavailability would therefore affect teaching and learning and consequently result in poor academic outcome of pupils. The use of these facilities could also pose a very huge challenge on the part of the teachers if they are not used appropriately.

### **2.11 Summary of Chapter**

This chapter presented the review of relevant literature that hinges on the objectives set for the study. The study used the theoretical and conceptual framework to describe the ideas adopted from the theories applied. The review of empirical information from other scholars in the same field of study was duly considered for the study.



## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.0 Overview**

This chapter describes the research procedures and techniques used for the study. The issues considered include the philosophical underpinning of the study, research design, population, sample and sampling procedure, instruments for data collection and their validity and reliability, and data collection procedures. It also includes data analysis procedure and ethical consideration.

### **3.1. Philosophical Underpinning of the Study**

Quantitative data can reveal information that can be generalized to a large group of people but these data often fail to provide specific answers, reasons, explanations or examples (Mugenda & Mugenda, 2010). Although qualitative research provides data about meaning and context regarding the people and environments of the study; the findings cannot be generalized because of the small numbers and narrow range of participants. This means that quantitative and qualitative methodologies have their own biases and limitations as separate research paradigms. However, when the two methods are employed, their biases and limitations complement each other and the results are much more realistic than if just one method is used. Based on the arguments for and against qualitative and quantitative methods, the researcher employed the mixed method so as to obtain the benefits derived from both qualitative and quantitative (depth and breadth) paradigms.

The study adopted the pragmatist paradigm in which both quantitative and qualitative methods of data collection were applied (Creswell & Plan-Clark, 2011). It suggests that, ontologically and epistemologically, the truth of a reality should be arrived at through a combination of both quantitative and qualitative methods. The pragmatist's position, therefore, is that, neither quantitative method nor qualitative method is enough to give explanatory and generalised information to people's decision. Rather, a combination of both quantitative and qualitative helps to arrive at a logical conclusion and generalisation of research findings. Based on this assumption, this study was conducted by using quantitative and qualitative methods. This is because,

qualitative research methodology embrace the interpretivist approach which was appropriate for the study. One weakness identified with interpretivist approach is that it is subjective, difficult to replicate and usually involves small sample size which is not representative enough (Creswell, 2012).

Therefore, the reason for choosing the pragmatist paradigm was that the study aimed at eliciting views from the respondents both qualitatively and quantitatively in order to investigate the contribution of preschool physical facilities on the teaching and learning in the Techiman North District.

### **3.2 Research Design**

The study adopted concurrent mixed method design to explore the study's variables without manipulating any of them. Creswell (2014) pointed out that concurrent mixed method research is a method of scientific enquiry that combines both qualitative and quantitative research method in one study in order to strengthen the findings. Mixed method was employed in this study because the study aimed at investigating the contribution of preschool physical facilities on the teaching and learning.

Furthermore, the reason the study employed concurrent mixed method was that every approach has its limitations and that the different approaches can be complementary. The concurrent mixed methods, is useful when the strength of both quantitative and qualitative data can provide the best understanding of the research problem and allows for triangulation leading to validity and strength of the findings (Creswell, 2009).

Thus, qualitative method was used to enable in-depth knowledge about the physical facilities in preschools and how they improve teaching and learning among children.

According to Bernard (2013), a qualitative approach seeks to understand the meaning of social phenomena rather than mere collection of numerical statistical data. It involves an in-depth investigation of knowledge. The method employs data collecting strategies such as unstructured interviews, observation and documentary evidence. The qualitative approach scarcely depends on the use of numbers though they can be used at times. The data gathered per the use of qualitative method consist of extracts of natural language including the verbatim transcripts of interview materials and extracts from texts, discourse, personal documents and field notebooks (Miller & Brewer, 2003).

Contrary to qualitative research which is inductive, quantitative research is deductive. Procedures for collecting data in quantitative research include questionnaire and laboratory observation. Large sample size is its hallmark as it seeks to achieve representativeness upon which generalization and prediction could be made (Ragin & Bercker, 1998). As the name connotes, quantitative research involves extensive use of numbers and as such, statistical techniques are employed to analyze the data generated for the research (Miller & Brewer, 2003).

One weakness of the approach, however, is that it is artificial and has the tendency of suffering from the challenge of being overly generalized. A close examination of the use of the quantitative or qualitative method exclusively in a research has its own

limitations, so the adoption of both approaches is useful since the defect in one can be compensated for by the other (Bryman, 2004; Grix, 2004).

As a result, this study was conducted using the concurrent mixed method. The researcher's choice of the mixed method was influenced by the desire to achieve the logic of triangulation and to achieve the intended research objective and to arrive at authentic conclusion.

More importantly, the mixed method allows the researcher to triangulate the information collected from the students and the service providers to facilitate accuracy and reliability of data as well as give further explanations to the issues under study.

Denzin (1987) explains that the logic of triangulation is based on the premise that:

*“no single method ever adequately solves the problem of rival causal factors...Because each method reveals different aspects of empirical reality, multiple methods of observation must be employed (p.113).”*

Quaigrain (2001) corroborates Denzin's (1987) view when he asserted that the goal of triangulation is to build checks and balances into the designs through multiple collection strategies. In this research, the concurrent triangulated mixed method which allows for the use of multiple sources of data such as questionnaire and interview.

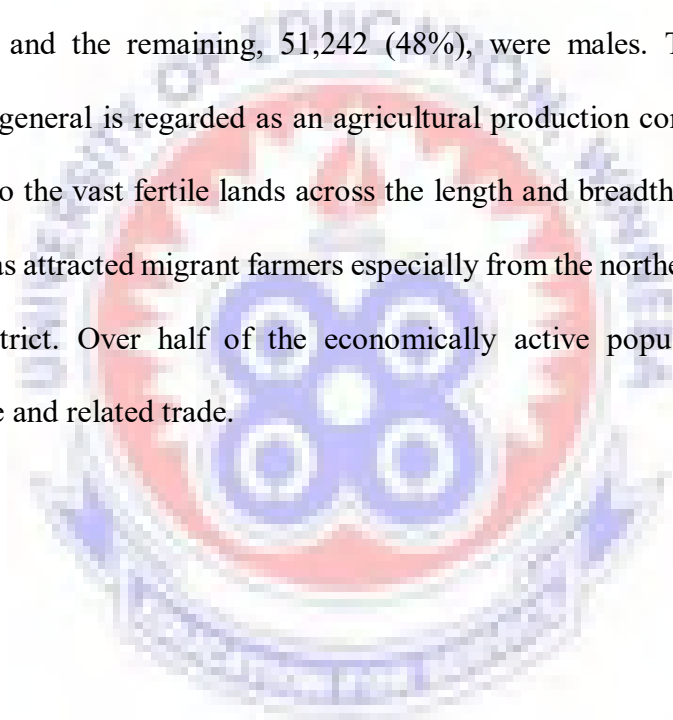
### **3.3 Setting**

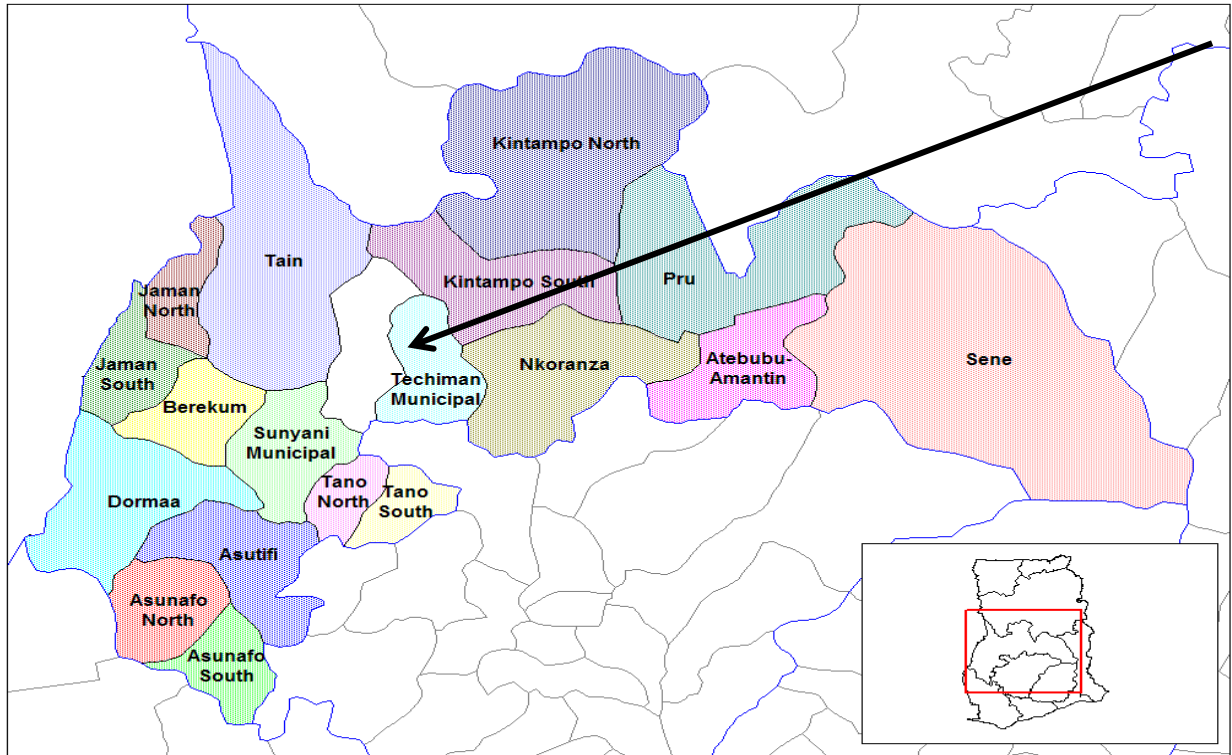
According to Ghana Statistical Service (2014), the Techiman North District is one of the five (5) newly established District Assemblies in the Brong Ahafo Region of



Ghana. The District was established by Legislative Instrument (LI 2095) 2012 and inaugurated on Thursday, 28th June, 2012 with Tuobodom as the District capital. It was carved out of Techiman District Assembly to ensure and strengthen decentralization and effective grass root participation in governance at the local level and bring development to the doorsteps of the people.

According to the Population and Housing Census (2010), the population of the District stood at 104,576. Out of this, 53,334 were females, representing 52% of the total population and the remaining, 51,242 (48%), were males. The Techiman North District in general is regarded as an agricultural production corridor. This is largely attributed to the vast fertile lands across the length and breadth of the District. This situation has attracted migrant farmers especially from the northern part of the country to the District. Over half of the economically active population is engaged in Agriculture and related trade.





*Figure 4: Map of Techiman North District*

### 3.4. Population of the Study

The target population of the study involved 147 participants composed of 72 preschool teachers and 75 attendants working at preschools in Techiman North District in the Bono North Region of Ghana. Table 3.1 shows the breakdown of the population for the study.

**Table 3.1. Population size**

Name of Schools	No. of Teachers	No. of Attendants	Total
-----------------	-----------------	-------------------	-------

---

<b><i>Public:</i></b>			
Nuriya Islamic Basic School (KG)	4	3	7
Tanoboasi Presby School (KG)	3	3	6
Bonya D/A School (KG)	3	5	8
Jama D/A School (KG)	4	3	7
Buoyem Methodist School (KG)	4	5	9
Esueye R/C School (KG)	4	3	7
Offuman SDA School (KG)	3	5	8
Subingya D/A School (KG)	4	4	8
Fitri D/A School (KG)	5	3	8
Aworowa Methodist School (KG)	3	5	8
<b><i>Private:</i></b>			
God's Word International School	3	4	7
Hope International School	4	3	7
Little Flower International School	3	3	6
Adekye International School	4	4	8
Royal Pioneers International School	2	3	5
Victory International School	4	4	8
Bono Academy School	3	3	6
Combat Academy	3	5	8
House of Faith International School	5	4	9
Beatrice International School	4	3	7
<b>Total</b>	<b>72</b>	<b>75</b>	<b>147</b>

---

**Source:** *Techiman District Education Directorate*

### **3.5 Sample and Sampling Techniques**

Out of 147 as target population, 75 (60 for teachers representing about 80% and 15 for attendants representing 20% ) were sampled from 20 preschools in the Bono North Region of Ghana using systematic sampling, simple random sampling and convenience sampling techniques. This consisted of 60 teachers and 15 attendants from the 20 selected schools. According to High (2000), estimating an adequate number of respondents is critical to the success of a research. The size of the study sample is critical to producing meaningful results. When there are too few subjects, it may be difficult to detect the effect or phenomenon understudied, thus providing inconclusive inference-making.

A multi staged sampling technique was adopted for the study. First, the cluster sampling technique was used to classify the schools into two clusters (public and private). Second, a simple random method was used to select 20 schools from both the public and the private schools. Third, the researcher used systematic random sampling technique to select the participants (teachers) to respond to the questionnaire, and convenience sampling technique was used to select the 15 attendants. The purpose of adopting simple random sampling to select respondents for the study was for each of them to have equal chance to be selected with no element of biasness on the part of the researcher. The convenience sampling technique was appropriate because according to Salome (2009), convenience-

sampling techniques can be used to select appropriate but accessible respondents who are available and easy to find to respond to the research questions.

### **3.6 Research Instrumentation**

The researcher used questionnaire, observation checklist and interview guide as the main instruments to gather data for this study.

#### **3.6.1 Questionnaire**

The questionnaire consisted of five sections (A – E). The first section asked respondents to provide their background information. The remaining sections were based on each of the four research objectives set to be achieved for the purpose of the study. Section “A” dealt with the demographic data of respondents followed by B, C, D and E which based on the objectives set for the study (Appendix “A”). The questionnaire was semi-structured (consisted of both open ended and close ended questions and was dichotomous in nature (“Yes” or “No”).

#### **3.6.2 Observation Checklist**

The researcher adopted the observation checklists by the Early Childhood Environment Rating Scale. The choice of the instrument was appropriate for the study because in the view of Zhang (2003), observation is a research technique or method which implies collection of evidence, examination or analysis of the evidence and significant judgments based on the evidence and the subsequent implications. In this study, a non-participant observation was used. It is a process of watching respondents, their activities or any phenomena of investigation without

communicating with the respondents for a period of time with the aim of achieving certain required results.

Karma (1999) added that observation is a purposeful and selective watching and listening to an interaction or phenomena as it takes place without asking the respondent. Observation is more appropriate in situations where information cannot easily be obtained by questioning. This necessitated the researcher to devise an appropriate means of obtaining information through snapshot although there was consent and mutual understanding between the researcher and the participants. Hence, it is good for learning interaction, functions and behaviours of people in a group and for studying phenomena as they naturally occur by human. The checklist consisted of two parts (A & B).

Part “A” was used to check the availability of the physical facilities in the preschools in the district. It consisted of Section “A” and “B”. Section “A” was made up of 10 items of indoor physical facilities and section B consisted of 10 items of outdoor physical facilities. The Part “B” of the observation checklist focused on the state of the physical facilities in the preschools. It had 20 items which were used to indicate the state of the physical facilities in the preschools. The variables on the observation checklist focused on indoor spacing and furnishing, infrastructure, furniture, room arrangement, teaching and learning materials and outdoor space and playing materials.

### 3.6.3 Interview Schedule

In the context of this study, semi-structured interview was employed. An interview is viewed as a method of field investigation which involves person-to-person interaction between researchers and interviewees during which specific questions are asked for specific answers (Creswell, 2007).

The purpose of the semi-structured interview was to enable the researcher to probe the interviewee's responses for clarification when the need arose as well as to obtain in-depth information. This method was appropriate because the interviewees were having knowledge of the research problem. The interview schedule/guide was conducted on the observed teachers and officers for them to explain the contribution of physical facilities on the teaching and learning.

Interview guide (Appendix "B") used focused on three Parts (1, 2 and 3). They were:

1. The contributions of indoor physical facilities on teaching and learning;
2. The influence of physical facilities on preschool teachers satisfaction in the teaching and learning process
3. The contribution of outdoor physical facilities on teaching and learning
4. The challenges teachers face in using the physical facilities in teaching and learning.

Each of the parts contained 2 items for the purpose of the study. It was again to clarify any complex or unusual school facilities observed during the school facilities' assessment. The 15 attendants were interviewed based on 8 semi-

structured interview items (Appendix “B”). The researcher did not use a uniform time-frame in interviewing the respondents because of the structure of the interview. An average time of 5 minutes was allotted for each interviewee. For ethical reasons, the researcher decided to use pseudonyms such as AT1 to mean 1<sup>st</sup> attendant, AT2 for 2<sup>nd</sup> attendant and so on to ensure my participants’ anonymity.

### **3.7. Validity and Reliability of the Research Instruments**

Validity is the degree to which the result obtained from the analysis of the data actually represents the phenomenon under study (Creswell, 2014). In this study, both content and face validity were taken into consideration. With content validity, the researcher presented the instruments to experts - supervisors in the Early Childhood Education Department who assessed whether the content would measure what it is intended to measure before using it for data collection. To determine the face validity, the instruments were given to colleague students in the same department already mentioned to assess and give valuable comments and criticisms on the pros and cons of the items. The reliability of the questionnaire items were tested through pilot-testing and the reliability co-efficient were 0.80.

### **3.8. Pilot-testing of the Instruments**

Before the actual data was collected, piloting of the research instruments was carried out in four schools. The pilot schools were selected (two private and two public schools) in the Kintampo Municipality. The Municipality was selected for piloting because the exhibitions of teacher dissatisfaction were manifested throughout the area with similar characteristics as the area selected for the study (Techiman North



District). During pilot study 12 teachers comprising of 4 males and 8 females were picked randomly. Test re-test method was used to test for reliability of the instrument. The instruments were administered to the respondents and re-administered to the same respondents after one week.

This was in line with (Shuttleworth, 2009), who stated that the instrument should be administered at two different times and then the correlation between the two sets of scores computed. This was done using Cronbach's Alpha Correlation Coefficient Formula. A correlation coefficient of 0.8 was obtained and thus the instrument was deemed to mean that the instrument was reliable and measurable. The pilot study enabled the present research to ascertain the reliability and validity of the instruments, and also enable familiarly with the administration of the research tools, together with this, the exercise created a chance for improvement and review of the instruments and procedures that were deemed necessary. After the pilot-testing, certain portions of items in the questionnaire were modified to conform to the objectives set for the study.

### **3.9. Data Collection Procedures**

Before the administration of the research instruments of the study, an introductory letter was collected from the head of department of Early Childhood Education and presented to schools that were randomly selected for the study. On arrival at each school, the researcher sought permission from the head teachers before discussing with the participants the purpose for the research, and they availed themselves willingly. After that, the questionnaires were distributed to the teachers to fill in

their own convenient time in order to elicit their responses in relation to the research questions. The respondents were not gathered at one place to respond to the questionnaires administered to them. However, the respondents were made to know about the limited time frame the researcher has at his disposal in relation to the study been carried out. Further, 15 attendants were interviewed based on the 6 open-ended interview guide, while 5 preschool facilities were observed.

### **3.10 Data Analysis**

Descriptive statistics was used to analyse the quantitative data (questionnaires) collected for the study. The items of the questionnaire used were coded and fed into the Statistical Package for Social Science (SPSS) version 20 and analyzed descriptively. The data was then organized into frequency counts converted into percentages. The results were presented in Tables. The interview data recorded was transcribed, coded and built into relationships. Themes were then developed from the relationships for discussion. A checklist was also designed to detail out the information obtained from the observation made within the study area.

According to Creswell (2008), an analysis of the quantitative data is done thematically which indicates a shift from reporting facts to making interpretations of people and activities. Information from the participants was recorded separately. The researcher sorted out the data gathered in manageable themes in order to differentiate relevant from irrelevant information. Codes were used in a logical way to report, describe and interpret the data in a comprehensive form. Pseudonyms were used for respondents to ensure anonymity. Information from

every respondent was recorded separately. The common key terms that emerged during the conversation were identified and discussed. Finally, the data were integrated into the analysis.

### **3.11 Ethical Consideration**

Bassey (1999) contended that, in any piece of research in the social sciences, ethical considerations are necessary in conducting and reporting the research in respect of democracy, respect for truth and respect for persons. As a result, in this study, both teachers who were respondents to the questionnaire and attendants who were interviewed were not forced to participate in the study but rather participated voluntarily. Furthermore, the researcher assured participants of anonymity and confidentiality. That is, the researcher took due cognizance of ethical responsibility in the collection and analysis of data and in the reporting of the information.

However, all the schools that took part were acknowledged and given a summary of the report so that goodwill would be maintained for future research. The researcher discussed with the teachers and authorities of the schools involved in the study that images on the activities within and outside the confines of the study area would be captured and integrated into the work.

## CHAPTER FOUR

### DATA PRESENTATION, ANALYSIS AND DISCUSSION

#### 4.1 Overview

This chapter dealt with the presentation, analysis, and discussion of the data collected for the study. Pseudonyms used to present the responses of the interviewees included AT1 as 1<sup>st</sup> attendant, AT2 as 2<sup>nd</sup> attendant and so on.

#### 4.2 Bio Data of Respondents (teachers and attendants)

Data on the number of respondents sampled for the study are presented in Table 4.1

**Table 4.1: Demographic Data of Respondents in relation to Gender**

Sex	Frequency	Percentage
Male	30	40%
Female	45	60%
<b>Total</b>	<b>75</b>	<b>100%</b>

**Source: Field Survey (2018)**

Data in Table 4.1 show that minority of the respondents 30 (40%) were males as against 45 (60%) females who were in the majority. The females outnumbered the males because of the nature of preschool teaching which demand and require more female than the male. This supports Creswell's (2012) assertion that, gender distribution when carrying out research is significant to determine the proportion of the male to female as a result of determining equitable gender distribution devoid of biasness.

**Table 4.2: Age Distribution of the Respondents**

<b>Age</b>	<b>Frequency</b>	<b>Percentage</b>
20 – 29 years	25	33%
30 – 39 years	27	36%
40 – 49 years	13	18%
50 years and above	10	14%
<b>Total</b>	<b>75</b>	<b>100%</b>

**Source: Field Survey (2018)**

In relation to age distribution, the data in Table 4.2 reveal that 25 respondents constituting 33% were within the age range of 20-29 years. Twenty-seven (27) respondents representing 36% fell within the age range of 30-39. Twenty-three (23) respondents representing 32% were aged above 40 years.

It is evident from Table 4.2 that majority of the teachers are mature and may have varied expectations in life. This is in support with Mellenbergh's (2008) assertion that, participants in research must be of age and sound mind which is an attribute of a psychological measurement of maturity which involves the product of growth and development.

### 4.3 Research Question 1: What kind of physical facilities are available to preschool children in the Techiman North District?

The data of the respondents in relation to the examination of various physical facilities available to preschool children are illustrated in Table 4.3.

**Table 4.3 Kind of physical facilities available to preschool children**

Physical facilities	Yes Frequency	Yes (%) Percentage	No Freq.	No (%) Per	Total (%)
Lighting in the classroom	19	32%	41	68%	<b>60 (100%)</b>
Windows for ventilation	36	60%	24	40%	<b>60 (100%)</b>
Children's tables and chairs for learning	21	35%	39	65%	<b>60 (100%)</b>
Space for group play within the school premises	12	20%	48	80%	<b>60 (100%)</b>
Urinal and toilet facility	16	27%	44	73%	<b>60 (100%)</b>
Teaching and learning materials	14	23%	46	77%	<b>60 (100%)</b>
Reading and writing materials	11	18%	49	82%	<b>60 (100%)</b>
Shelve for toys and materials for recreational purposes	4	7%	56	93%	<b>60 (100%)</b>
Arts Center	2	3%	58	97%	<b>60 (100%)</b>
Different texture and colour of pictures and drawings on walls	7	12%	53	88%	<b>60 (100%)</b>

**Source: Field Survey (2018)**

Among the items identified, majority of them were not available in the school as indicated by the respondents. With frequency counts of 19 and 21 representing 32%

and 35% respectively the respondents indicated that there was availability of lighting and children's tables and chairs while 41 (68%) and 39 (65%) indicated that such items are not available. Almost all the items (physical facilities) identified, majority of the respondents indicated that they were not available with the exception of windows which served as ventilation. Among the items that most of the respondents indicated their unavailability were space for group play, urinal and toilet facilities, teaching and learning materials, reading and writing materials and shelves for recreational purposes.

In relation to the observation made by the researcher on the availability of physical facilities in the selected schools, there were only 5 facilities consistently observed in all the schools selected which included windows for ventilation, light, urinal and toilet facilities as well as tables and chairs. During the interview session in connection with the kinds of physical facilities available, this was what one of the interviewees (AT5) remarked:

*AT5: "The teachers and pupils are really suffering. It is very pity when you see the kind of classroom they are in with the kind of chairs and tables both the teachers and the children are using. Something must be done to improve upon the situation".*

The significance of the availability of physical facilities confirms a study carried out by Moore (1987) which found that quality physically planned and designed environment of the preschool and its facilities has great impact on the child's cognitive and social behaviour. Also, Johnson (2000) added on that the school's physical facilities convey messages to the children influencing their attitude and behaviour.

CECDE (2005) also posited that indoor space which is part of the physical facilities provide a positive sense of control as the preschool child interact with materials, events and ideas while learning.

**Research Question 2: What is the influence of physical facilities on preschool teachers' satisfaction in the teaching and learning process?**

Data collected in answer to this research question have been presented in Table 4.4.

**Table 4.4: Influence of physical facilities on preschool teachers' satisfaction in the teaching and learning process**

Aspect (s)	SA (%)	A (%)	D (%)	SD (%)	Total (%)
Classrooms are comfortable and adequate	5 (8%)	10 (17%)	10 (17%)	35 (58%)	<b>60 (100%)</b>
Desks are comfortable and adequate	4 (7%)	7 (11%)	22 (37%)	27 (45%)	<b>60 (100%)</b>
School has adequate buildings and adequate offices	6 (10%)	14 (23%)	16 (27%)	24 (40%)	<b>60 (100%)</b>
School has enough games equipment and conducive attractive environment which motivates the teachers	2 (3%)	16 (27%)	19 (32%)	23 (38%)	<b>60 (100%)</b>

**Source: Field Survey (2018)**

At least 45 (75%) of the teachers disagreed that facilities especially were adequate and satisfied while 15 (25%) agreed to the assertion. Most of the teachers 49 (82%) disagreed that desks were comfortable and adequate with 11 (18%) who agreed. The finding indicates that, 40(67%) of the respondents disagreed that school had provided adequate buildings and offices for teachers and school heads with 20 (33%) in agreement to the assertion. At least 42 (70%) of the teachers also disagreed that the



schools have enough games equipment and conducive attractive environment which motivates the teachers with 18 (30%) in agreement. The influence of physical facilities on preschool teachers' satisfaction indicate that school facilities satisfy teachers and hence improve pupils' performance, school facilities enhance satisfaction and hence pupils perform better in examinations. Reynolds (2004) observed that teachers were frustrated because of poor physical facilities and shortage of teaching and learning resources. In order to increase efficiency, effectiveness, productivity and commitment, teachers must be satisfied.

This satisfaction comes through the teachers being provided with good working conditions like manageable class size, teacher/pupil ratio, and work space and school physical facilities. The best predictor of satisfaction is when the employees' personal values match those of the organization. It should be noted that workload does not only mean the number of lessons per week, but also entails other activities (Mokaya, 2013). Teachers do teach, they assign lessons, mark examinations and assignments, are involved in co-curricular activities, supervisory duties and counselling of pupils. All these duties make teachers to be overworked and hence may not give their best output.

**Research Question 3: How does the availability or unavailability of the preschool facilities contribute to the teaching and learning?**

Data collected in answer to this research question have been presented in Table 4.5.

**Table 4.5: Contribution of preschool facilities contribution to preschool teaching and learning**

<b>Contributions</b>	<b>Yes</b>		<b>No</b>		<b>Total</b>
	<b>Freq.</b>	<b>%</b>	<b>Freq.</b>	<b>%</b>	<b>Freq. (%)</b>
Reduction of absenteeism	40	67%	20	33%	<b>60 (100%)</b>
Change of children's attitudes	36	60%	24	40%	<b>60 (100%)</b>
Proper behavior modification outcomes	50	78%	10	22%	<b>60 (100%)</b>
Developing children psychological domains	26	43%	34	57%	<b>60 (100%)</b>
Improving children understanding of academic work	39	65%	21	35%	<b>60 (100%)</b>
Increasing retention of children in school	45	75%	15	25%	<b>60 (100%)</b>

**Source: Field Survey (2018)**

Majority of the respondents indicated that the contribution of physical facilities would help address absenteeism on the part of the preschool children as well as help increase the retention of children in the school. This recorded 40 (67%) and 45 (75%) respectively who indicated "Yes" to the assertions above while 20 (33%) and 15 (25%) ticked "No". Again, majority of them indicated that physical facilities would improve children's understanding of academic work and promote children's health and change their attitudes and behaviors. These also pulled frequency counts of 36 (60%) and 39 (65%) of the respondents indicated "Yes" to the statement while 24 (40%) and 21 (35%)

indicated “No”. This was in support of Shell’s (2015) statement that quality indoor facilities contribute to teachers’ satisfaction. This finding has not only concurred with Shell’s but also findings of Hale (1994) which revealed that physical facilities support and promote effective teaching and learning. Olds (2001) was also of the view that quality lighting, ventilation and acoustic are essential facilities in promoting healthy living style of children.

An interview was conducted to elicit views on the contribution of physical facilities on teaching and learning and these were the remarks:

*AT6: “Nowadays, few pupils come to class because there are no materials to play or learn with. This has made the children not become happy to come to school”.*

Another interviewee made the following confession on the contribution of physical facilities:

*AT1: “We the teachers have passion and love to teach the children very well if there are physical facilities available in the school. The head of this school has helped a lot because I heard through her intervention; the USAID came to the school’s aid and constructed this nice building as you can see now”.*

**Research Question 4: What are the challenges teachers' encounters in using physical facilities during teaching and learning process?**

Data collected in answer to this research question have been presented in Table 4.6.

**Table 4.6: Challenges teachers face in using physical facilities during teaching and learning process**

<b>Challenges</b>	<b>SA (%)</b>	<b>A (%)</b>	<b>D (%)</b>	<b>SD (%)</b>	<b>Total (%)</b>
Dilapidated and poor construction of school blocks	30 (50%)	15 (25%)	10 (16%)	5 (9%)	<b>60 (100%)</b>
Unsuitable furniture (tables and chairs/desks) for both teachers and children	40 (67%)	17 (28%)	2 (3%)	1 (2%)	<b>60 (100%)</b>
Unsafe water	39 (65%)	15 (25%)	4 (7%)	2 (3%)	<b>60 (100%)</b>
Unavailability of toilet or urinal facilities	41 (68%)	16 (27%)	3 (5%)	0 (0%)	<b>60 (100%)</b>
Lack of teaching and learning materials for classroom activities	39 (65%)	10 (16%)	7 (12%)	4 (7%)	<b>60 (100%)</b>
Lack of reading and writing materials/resources to enhance preschool children's learning activities	51 (85%)	6 (10%)	3 (5%)	0 (0%)	<b>60 (100%)</b>

**Source: Field Survey (2018)**

Among the items identified as challenges, majority of the respondents indicated that the school lacked reading and writing materials/resources to enhance preschool children's learning activities. This had a frequency count of 51 representing 85% agreeing to the assertion while 3 (5%) disagreed. On the average, greater number of respondents agreed to the challenges such as dilapidated and poor construction of

school blocks 45 (75%); unsuitable furniture (tables and chairs/desks) for both teachers and children 57 (95%); lack or unsafe water and unavailability of toilet or urinal facilities and lack of teaching and learning materials for classroom activities 54 (90%).

This finding concurs with that of Twum (2016) that most preschools in the Shama District lack adequate teaching and learning resources and facilities suitable for preschool learning environment. These are inadequate facilities manifest as improper ventilated classroom, inappropriate furniture for children.

Greenman (2005) suggested that to improve the state of physical facilities in the school, the planning of the pre-school building should be socially friendly, with high quality facilities that support integrated activities for infants, toddlers, and young children. The building should be at a safe and secure area with toilet, and natural facilities that is culturally appropriate.

Moore (1997) also supported that school children love to look out of windows and, therefore, classrooms should have open windows that will give children visual access to the exterior facilities as well providing natural light to the interior space of the building. However, the windows should have screens or breakthrough glass panes to prevent the children from falling through the windows.

Per the interview conducted on the challenges facing teachers and the school as a whole, these were some of the remarks from the interviewees as follows:

*AT8: “In fact, the poor state of our children classroom is so bad that, it does not make teaching and learning very attractive. It does not allow effective teaching and learning”.*

Another also remarked:

*AT7: “We have broken tables and chairs, the desks are not good for children age. The tables and chairs they were meant for primary pupils. They stretch before themselves when writing”.*

### **Sample of the Observation**

An observation was made by the researcher with evidence of screenshot to support the data collected from respondents to ascertain the veracity of the study as follows:



**Figure 5: Dilapidated building for one of the preschools (public school)**



**Figure 6: Tables and chairs for the children (public school)**

Figures 5 and 6 support what the interviewees remarked on the challenges facing the teachers as far as teaching and learning was concerned. Figure 5 showed a dilapidated building with unfriendly environment for the preschool children. This could result in inattentiveness in the class. Figure 6 also showed unsuitable tables and chairs (desks) for the children in the classroom. It was also obvious that the children would be struggling in relation to their reading especially in their writing activities.



**Figure 7: Front elevation of one of the preschool buildings (private)**

Figure 7 presented one of the preschool buildings. From the front view of the school building, it could be deduced that the outdoor facilities coupled with the painting was appealing comparable to the school building in Figure 5. The school environment was viewed to be very clean and conducive for teaching and learning. Outdoor physical facilities such as water tank, swing and others were observed accordingly.





**Figure 8: Sitting arrangement of pupils in one of the preschools (public)**

The sitting arrangement in Figure 8 was viewed inappropriate for teaching and learning. The surface of the round table looked rough which could let the pupils feel uncomfortable when writing.

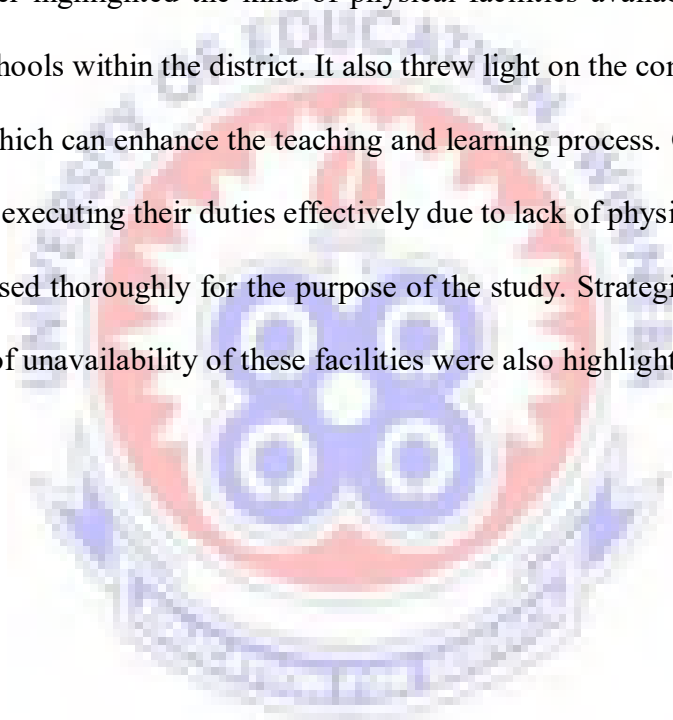


**Figure 9: Sitting arrangement of pupils in one of the preschools (private)**

Figure 9 showed the sitting arrangement of one of the private preschools for the study. From observation, the surface of the round table looked smoother than that of the ones in Figure 8. The floor in the classroom looked appealing coupled with the windows that allow ventilation for effective and enabling atmosphere for both teachers and pupils.

### **4.3 Summary of Chapter**

This chapter highlighted the kind of physical facilities available in the various selected schools within the district. It also threw light on the contribution of these facilities which can enhance the teaching and learning process. Challenges facing teachers in executing their duties effectively due to lack of physical facilities were also discussed thoroughly for the purpose of the study. Strategies to mitigate the incidence of unavailability of these facilities were also highlighted.



## CHAPTER FIVE

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Overview

This chapter presents the summary and the major findings of the study. The chapter also included conclusion, recommendations of the study and areas for further study. The study examined the contributions of physical facilities in teaching and learning in the Techiman District in the Brong Ahafo Region of Ghana.

#### 5.2 Summary

The study was conducted to investigate the contribution of physical facilities in teaching and learning at the preschool level in the Techiman North District in the Brong Ahafo Region of Ghana. The study was set out to examine the kind of physical facilities available to preschool children; the current state of preschool physical facilities; determine the contribution of physical facilities on preschool teaching and learning and examine the challenges teachers face in using physical facilities during teaching and learning process.

The study adopted mixed method approach in order to achieve the study's objectives. Seventy-five respondents consisting of 60 teachers and 15 attendants were sampled for the study. Semi-structured questionnaires and interview schedule were used in collecting data for the study. The descriptive analysis procedures were employed in analyzing the data collected. Based on the analysis of the data, the following findings were found from the study:

Firstly, majority of the schools which were part of the study lacked the appropriate physical facilities to promote teaching and learning. Secondly, most of the preschools' physical facilities were not in good condition to promote children effective learning, safety and health. Thirdly, majority of the schools do not have chairs and tables, toilet and urinal facilities and instructional materials to enhance teaching and learning process. As such, some of the challenges that hinder effective learning were lack of comfortable furniture, toilet, and learning materials.

### **5.3 Conclusions**

Based on the findings of the study, the following conclusions are drawn.

The kind of physical facilities available to the preschool children were not sufficient to enhance the learning outcomes. Physical facilities such as lighting, water, chairs and tables as well as enough windows to provide ventilation was not being viewed as such.

Again, the current states of physical facilities in the schools under study were not appealing on the average. This was because the state of most of the classrooms was not habitable for both teachers and preschool children. Although, the availability of physical facilities in preschools reduce the level of absenteeism, changes attitude and modifies behavior of children appropriately and improve children learning.

Further, inadequate TLMs or instructional materials to promote teaching and learning and also due to uncomfortable atmospheric conditions in the schools such dilapidated buildings, unsafe water and unavailability of toilet and urinal facilities

were the challenges hindering quality preschool education. All these factors appeared to hinder effective teaching and learning in the preschools studied.

### **5.3. Limitation of the study**

The researcher, in carrying out the study, confronted with several limitations and these included time. That is, as the study was being carried out, the researcher must be mindful of timelines or deadlines given by the interim supervisor. Also, the researcher was limited to access to relevant literature for the study. Data collection and the use of software were also some of the limitation factors which affected the study one way or the other.

### **5.4. Recommendations**

Following the conclusions of the study, the under listed recommendations have been proposed for practice:

1. Techiman North District Assembly in consultation with the Chief Executive and the traditional authority should take cogent steps and effort to provide physical facilities that would promote teaching and learning process at the preschool level. The PTA can also play a major role in achieving the objective of providing adequate physical facilities through the provision of school developmental levies by the members of the association. Provision of toilet and urinal facilities should be provided to avoid discomfort on the part of active players within the classroom environment.

2. Techiman North Education Directorate in collaboration with head teachers should provide adequate physical facilities to enhance teaching and learning at the preschool level. This will help shape their attitude and modify their behavior appropriately.
3. Heads of schools and the Techiman North Education Directorate should provide the necessary teaching and learning materials (instructional materials) for both the teachers and the children to help achieve the teaching and learning goals in the classroom.

### **5.5 Suggestions for Further Study**

The study focused on the contribution of physical facilities in teaching and learning at the preschool level. Physical facilities have been viewed as not only determinant to promote effective teaching and learning. It is therefore necessary to view that, a study on the assessment of the standard of living of both teachers and parents/guardians as motivational tool towards teaching and learning process can also be researchable topic for study.

## **REFERENCES**

- Abbas, D. (2012). A survey of human and physical facilities available for chemistry teaching in high schools of District Sheikhpura. Institute of education and Research, University of the Punjab, Lahore: An Unpublished M.Ed. Thesis.
- Abdou, T. (1997). Classroom contexts: Connections between class size and within class groupings. *British Journal of Educational Psychology*, 71, 283-301.

- ACECQA (2011). Adapting the physical environment to meet the needs of all young children for play. *Early Childhood Education Journal*, 29, 105-109.
- Aggrey, H. (1996). The role of the physical environment for children in residential care. *Residential Treatment for Children & Youth*, 20, 283-303.
- Aguusiebe, F. (2004). Resource Utilization and projection in secondary education in Oyo State of Nigeria. An Unpublished Ph.D. Thesis. University of Ibadan
- Akhihiero, P. A. (2011). Mainstreaming persons with disabilities in the vision 20:20 Agenda: A call for the Enforcement of their Social, Economic and Political Rights”, A paper presented at the 1<sup>st</sup> NAPVID “Right Above Charity” lecture to mark the International Day for People with Disabilities. Held at Excalibur Hotel, Etete Road, Benin City on the 2nd of December
- Akomolafe, C. O. & Adesua, V. O. (2016). The Impact of Physical Facilities on Students' Level of Motivation and Academic Performance in Senior Secondary Schools in South West Nigeria. *Journal of Education and Practice*, 7(4), 38-42.
- Alimi, O. S. (2004). Appraisal of the Adequacy of Available School Plant for Primary Education In Ayedaade Local Government Area of Osun State. *Educational Thought*, -/ (1), 64-69.
- Bailey, J. (2002). Resource capacities supporting thematic approach in teaching ECDE Centres In Uasin Gishu County. *International Journal of Education Learning and Development*, 2(5), 78-86.
- Barnados, J. (2008). The learning environment: Do school facilities really affect a child’s education? *Learning by Design*, 11, 10-13
- Bartels, T. (2004). *Early Childhood Education: A guide for students*. London: SAGE Publications.
- Bassey, M. (1999). *Case study research in educational settings: Doing qualitative research in educational settings*. Oklahoma: Open University Press.
- Bélangier, P. (1996). Learning environments and environmental education. In L. H. Hill & D. E. Clover (Eds.), *Environmental adult education: Ecological learning, theory, and practice for socio-environmental change* (Vol. 99, pp. 79–88). San Francisco: Jossey Bass.

- Bernard, A. K. (2013). Influence of workplace conditions on teachers job satisfaction. *Journal of Educational research*, 93(1), 39-47
- Bernstein, J. (2006). Explaining relationships among student outcomes and the school's physical environment. *Journal of Advanced Academics*, 19(3), 444-471.
- Blum, D. (2005). Impact of space and color in the physical environment on preschool children's cooperative behavior. *Environment and Behavior*, 31, 413-428.
- Boateng, K. S. (2003). Teachers and students perception of classroom indiscipline in selected senior secondary schools in Cape Coast Municipality. Unpublished master's thesis, University of Cape Coast. Ghana.
- Bowman, G., & Donovan, R. C. (2000). *Applying cognitive strategies to instructional design*. Wiley Press. New York: USA
- Bredenkamp, H. (2011). *Effective practices in Early Childhood Education: Building a foundation*. New Jersey: Pearson, Inc.
- Bredenkamp, S., & Copple, S. (1997). *Developmentally appropriate practice in early childhood programs* (Rev. Ed.). Washington, DC: National Association for the Education of Young Children.
- Brown, P., Garry, H., Turnkey, J., & Jensen, G. (2009). Modification of play behaviors of preschool children through manipulation of environmental variables. In J. L. Frost & S. Sunderline (Eds.), *When children play* (pp.265-272). Wehaton, MD: Association for Childhood Education International.
- Bruner P. (1966). *Sociology: Traditional and Radical Perspective: an introduction*. London: Haper and Row Ltd.
- Bryman, A. (2004). *Social Research Methods. (2nd edition)*. Oxford: Oxford University Press. p. 26 – 45.
- Cash, C. S. (1993). *Building condition and student achievement and behavior (unpublished doctoral dissertation)*. Virginia Polytechnic Institute and State University, Blacksberg: VA
- Centre for Early Childhood Development and Education [CECDE] (2005). *Handbook for Early Childhood Development Education. Vol. 1*. CECDE Publishing House, Imukuru – Kenya



- Cresswell, J. W. (2009). *Research Design: Qualitative, Quantitative and Mixed Approaches*. Los Angeles, CA, Sage.
- Cresswell, J. W. (2014). *Research Design: Qualitative, Quantitative and Mixed Approaches*. (4<sup>th</sup> Ed.), London and California SAGE Publication, Inc.
- Cresswell, J. W. (2007). *Research design: Qualitative, quantitative, and mixed methods approaches*, 2nd ed. Thousand Oaks, CA: Sage.
- Cresswell, J. W. (2008). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle River, NJ: Pearson/Merrill Education.
- Cresswell, J. W. (2012). *Research design: Qualitative, Quantitative, and mixed methods approaches*. 3rd ed. University of Nebraska-Lincoln: SAGE Publications, Inc.
- Cresswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research (2nd ed.)*. London: Sage Publications Ltd.
- Crook, J. F. (2006). *A study of school building conditions and students achievement in the High Schools of Virginia (Unpublished doctoral dissertation)*. Virginia Polytechnic Institute and State University, Blacksburg.
- Daragh, S. (2010). Classroom environment: A literature review. *Educational Psychology, 10*(3), 239-253.
- Dare, K. (1998). *The impact of school infrastructure on student outcomes and behavior*. Canberra, Australia: Department of Education.
- Dawson, C., & Parker, J. R. (1998). *A descriptive analysis of Neville High School teachers regarding the school renovation*. New Orleans, LA: Paper presented at Mid-South Educational Research Associations, ED 427506.
- Dean, C. (1990). Building condition and student achievement and behavior. Ph. D. Dissertation, Virginia Polytechnic and State University, United States -- Virginia. Retrieved May 4, 2018, from Dissertation & Theses: Full Text. (Publication No. AAT 9319761)
- Debord, K., Cherry, L. H., Fisher, T., & Rooney, G. R. (2005). The Effect of the Physical Classroom Environment on Literacy Outcomes: How 3rd Class Teachers use the Physical Classroom to Implement a Balanced Literacy

Curriculum. A Thesis presented to the Faculty of the Graduate School  
University of Missouri.

- Deiner, P. L (2013). *Inclusive Early Childhood Education: Development, resources, and practice*. Cengage Learning, NY: USA.
- Eze, U. N. (2010). Managing behaviour in the classroom. In U.L. Igbokwe and U.N. Eze, (Eds.), *Classroom management for curriculum implementation: Applying psychological principles*. Enugu: Timex Publishers.
- Farombi, M. O. (1998). Parental satisfaction with the quality of pre-primary education in Bondo District, Siaya County, Kenya. MED Thesis, Kenyatta University Kenya
- Gestwicki, R. (2004). Effect of indoor environmental quality on occupant's perception of performance: A comparative study, Retrieved February 25, 2009, from [http://www.edfacilities.org/rl/classroom\\_design.cfm](http://www.edfacilities.org/rl/classroom_design.cfm).
- Ghana Statistical Service (2014). Ghana Demographic and Health Survey. The Global Fund. pp. 246.
- Greenfield, E. (2004). Building better outcomes: the impact of school infrastructure on student outcomes and behavior, *Schooling Issues Digest*
- Greenman, K. (2005). Fit in the classroom: Predictors of student performance and satisfaction in management education. *Journal of Management Education*, 26(1), 5-18.
- Gordon, R., & Brown, M. (1989). *The conditions of learning* (3rd ed.), Holt, Rinehart, and Winston, New York.
- Grix, J. (2004). *The foundations of research*. London: Palgrave Macmillan. p. 56 – 63. Retrieved online 15/07/2018
- Hale, N. (1994). *Quality indicator*, A paper presented in the Capacity Building Workshop on Monitoring and Evaluating Progress in Education in the Pacific in Nadi, FIJI on 27–31 October 1994.
- Harb, J. S. & El-Shaarawin, S. (2006). Transforming Thai Preschool Teachers' Knowledge on Inclusive Practice: A Collaborative Inquiry. *Australian Journal of Teacher Education*, 40(7), 57-69. Retrieved on 13-6-2015 at: <http://dx.doi.org/10.14221/aje.2015v40n7.5>

- Heyneman, J. & Loxley, H. (1993). Adequacy of instructional materials and physical facilities and their effect on quality of teacher preparation in colleges in Bungoma County. *International Journal of Science and Research (IJSR)*, 12(2).
- Higgins, E., Kumbasa, T., Lamimbi, F., & Tongo, C. (2005). Implementation of early childhood development education service standard guidelines on physical facilities in public and private early childhood education centres Kakamega County, Kenya. *Early Child Development and Care*, 186(11), 1765-1778.
- Hines, B. A. (1996). Factors associated with Nursing Home Staff Turnover. *The Gerontological Society of America*, 45 – 52.
- Hodgeman, P. (2011). *The impact of school environments: A literature review*. The Centre for Learning and Teaching, School of Education, Communication and Language Science, University of Newcastle. Accessed online on 30/04/07 at <http://www.cfbt.com/PDF/91085.pdf>
- Jeffrey, M. & Beasley, R. (2012). Role of physical facilities in teaching learning process. *Interdisciplinary Journal of Contemporary Research in Business*, 4(3), 210-216.
- Johnson, R. C. (2000). Future school facility design: Clues from emerging definitions of teaching and learning plus new thoughts about learning organizations. *Educational Facility Planner*, 32(3), 2.
- Joshi, E. (2008). Practices and challenges of early childhood care and education in Addis Ababa, Arada Sub-City Government Kindergartens. MA Thesis in Special Needs Education, Addis Ababa University
- Karma, W. (1999). Multi-model of education quality and multi levels of self-arrangement in schools. *Educational Management and Administration*, 25 (4), 26-37.
- Keeler, W. (2008). Smart classrooms require smart planning. *College Planning and Management*, 3(4), 37-38.
- Keep, P. C. (2002). *Working on the work: An action plan for teachers, principals, and superintendents*. San Francisco: Jossey-Bass.
- Kudolo, L. (1983). Teachers and teaching: Testing policy hypotheses from a national commission report. *Educational Researcher*, 27(1), 5-15.

- Mage, N. (2014). Educational leaders as caring teachers. *School Leadership and Management*, 26(4) 339– 345
- Mankoe, J. O. (2002). *Educational administration and management in Ghana*. Madina-Accra: Progressive Stars Limited.
- Maxwell, F. (2008). *Learning environment and academic performance of secondary school students in external examinations: A study of selected schools in Ota*. Paper presented during proceedings of Edulearn14 Conference 7th-9th July 2008, Barcelona, Spain.
- McWilliam, H. O. A., & Kwamena-Poh, M. A. (1975). *The development of education in Ghana*. London: Longman
- Mellenbergh, L. (2008). *Research Methods: A practical Guide for the Social Sciences*. Edinburgh Gate: Pearson Education Ltd.
- Mendell, M. J. & Heath, G. A. (2005). *Do indoor pollutants and thermal conditions in schools influence student performance? A critical review of the literature*. Lawrence Berkeley National Laboratory, Environmental Energy Technologies Division, Indoor Environment Department, Berkeley, CA 94720, USA
- Mgbodile, T. O. (2004). Management Styles for effective school administration. In T. O. Mgbodile (Ed.), *Fundamentals in educational administration and planning*. Enugu; Magnet Business Enterprises
- Miller, H., & Brewer, F. (2003). *Educational facilities: The impact and role of the physical environment of the school on teaching, learning and educational outcomes*. Milwaukee, WI: University of Wisconsin-Milwaukee, Architecture and Urban Planning Research.
- Ministry of Education Report (2010). *A Background Paper prepared for the Ministry of Education: National Education Forum*. Accra: Ministry of Education
- Mokaya, Z. M. (2013). Influence of school infrastructure on students' performance in public secondary schools in Kajiado County, Kenya. A Thesis submitted in partial fulfillment of the requirements for the awards of the Degree of Master of Education (Med) in Corporate Governance, University of Nairobi
- Moore, M. (1987). *A Learning Environment - A Euphemism for Instruction or a Potential for Dialogue?* Media Education Publication, pp. 163-212.

- Morrison, A. (2001). The interpretation of intrusions in psychosis: an integrative cognitive approach to hallucinations and delusions. *Behavioural and Cognitive Psychotherapy*, 29(3), 257-276.
- Morrison, G. I. (1991). Prioritization of 31 criteria for school building adequacy. Baltimore, MD: American Civil Liberties Union Foundation of Maryland.
- Mugenda M. O. and Mugenda A. (2003). *Research Methods: Qualitative and Quantitative Approaches*, African Centre for Technology Studies, Nairobi.
- Nacino-Brown, R., Oke, F. E., & Brown, D. P. (1990). *Curriculum and instruction: An introduction to methods of teaching*. London: Macmillan.
- Nwizu, G. (2003). *Modern Studies in Public Administration*. Enugu: John Jacob Classic Publishers.
- Nyamwange, Z. (2012). Influence of school physical environment on teachers' satisfaction in selected public primary schools in Elgeyo Marakwet County, Kenya. A thesis submitted in fulfillment of the requirements for the award of the Degree of Doctor of Philosophy (PhD) in Education of Kenyatta University.
- Obeng, K. (1996). *Teacher Motivation in Sub - Sahara Africa and South Asia*. Central Research Department for the International Development, Sussex University Press
- Organization for Economic Co-operation Development (2011). *Education at a glance 2011: OECD indicators*. Paris: OECD Publishing. <http://dx.doi.org/10.1787/eag-2011-en>
- Offenheiser, R. C, & Holcombe, S. H. (2003). *Challenges and opportunities in implementing a rights-based approach to development: An Oxfam America perspective*. Non-profit and Voluntary Sector Quarterly. 32. 268-301.
- Okafor, F.C. (2004): Treatment of unit non-response in two-stage sampling with partial replacement of units. *Statistical*, 64(3), 511 – 521.
- Olds, E. S. (2001). *The Effect of the Physical Classroom Environment on Literacy Outcomes: How 3rd Class Teachers use the Physical Classroom to Implement a Balanced Literacy Curriculum*. A Thesis presented to the Faculty of the Graduate School University of Missouri

- Oni, A. (2002). Final situational analysis report on the technical support for the development of an implementation strategy for ECD Element of the Kenya National ECD Policy Framework and ECD Service Standard Guideline. Nairobi: Associates, Centre for Research and Development.
- Ragin, C., & Bercker, P. (1998). *Workshop on scientific foundations of qualitative research*. Washington, DC: National Science Foundation. Available at: <http://www.nsf.gov/pubs/2004/nsf04219/nsf04219>.
- Salleh, F. Kamaruzzaman, G. K., & Mahyuddin, R. D. (2013). Role of physical facilities in teaching learning process. *Interdisciplinary Journal of Contemporary Research in Business*, 4(3), 210-216.
- Salome, C. (2009). *Real world research*. (2nd ed.). Oxford: Blackwell Publishers
- Sam, M. (1973). The research basis for performance-based teacher education. *Review of Educational Research*, 44(4), 463-484. Retrieved from <http://www.jstor.org/stable/1170103>
- Schneider, M. (2002). *Do school facilities affect academic outcomes?* Washington: National Clearinghouse for Educational Facilities.
- Scott, R. (2001). A changing focus in games teaching. In L. Almond (Ed.), *the place of physical education in schools* (pp. 42-71). London: Kogan/Page.
- Seyedehzahra, M., Tawil, N. A. G., Abdullah, M. S., Surat, H., & Usman, F. (2011). *Developing conducive sustainable outdoor learning: The impact of natural environment on learning, social and emotional intelligence*. Faculty of Engineering and Built Environment, National University of Malaysia
- Shaari, A. T. & Ahmad, M. A. (2015). The availability of school facilities and their effects on the quality of education in government primary schools of Harari Regional State and East Hararghe Zone, Ethiopia. *Middle Eastern & African Journal of Educational Research*, 11, 59-71.
- Shell, C. (2015). *Real world research: A resource for social scientists and practitioner-researchers* (5<sup>th</sup> ed). Oxford: Blackwell
- Spencer, K., & Wright, G. (2014). How does early childhood care and education affect cognitive development? An international review of the effects of early interventions for children from different social backgrounds. *Early Childhood Research Quarterly*, 25(2), 140-165.

- Szuba, T. & Young, R. (2003). *Planning Guide for Maintaining School Facilities*, NCES 2003-347. U.S. Department of Education, National Center for Education Statistics.
- Tuntufye, T.S. (2014). *Knowledge and Gender Differences among High School Students in Nairobi , Kenya*
- Twum, J. G. (2016). *Principles, methods and techniques of teaching*. New Delhi: Vikas Publishing House Pvt. Ltd.
- UNICEF (1989) “UNICEF gloomy on child development goals.” *Lancet* 362 (9400)
- UNESCO (2007). *Education for all by 2015 will we make it? Report on inclusive education and education for all*. Oxford University Press, Paris.
- UNESCO (2011). *Challenges of implementing free day secondary education in Kenya. Experiences from district*. Nairobi: UNESCO
- United Nations Children Education Fund [UNICEF] (2013). *Education Section Programme Diversion*, Published by UNICEF Diversion of Communication 3 United Nations Plaza New York, NY 10017, USA Retrieved on March, 2015.
- Uzzell, C. (1988). A three domain mode of teacher and school executive satisfaction. *Journal of Educational Administration*, 36, 362-78
- Wargocki, P. & Wyon, D. (2007). The effects of moderately raised classroom temperatures and classroom ventilation rate on the performance of schoolwork by children. *HVAC&R Res.*, 13(2), 193–220.
- Wiafe, P. A. (2000). *Social research in rural communities* (2nd ed). Accra: Ghana Universities Press.
- Woodhead, M. (2006). Towards a global paradigm for research into early childhood. In Penn, H. (Ed), *Early Childhood Services: theory, policy and practice*. Buckingham: Open University Press.
- Zhang, J. L. (2003). Effects of control over office workspace on perceptions of the work environment and work outcomes. *Journal of Environmental Psychology*, 25(3), 323-333.



*Dear Survey Respondent,*

*I am an MPhil student of the aforementioned educational institution embarking on a Study. This study is aimed at examining the contribution of physical facilities in teaching and learning at the preschool level. To help achieve this objective, I humbly request you to provide relevant and objective responses to the items on this questionnaire. Note that your answers would be treated in strict confidence and used for academic purpose only.*



**Section A: Demographic Data of Respondent (s)**

Please provide the information that reflects your present circumstances. Tick [] the appropriate response.

**1. Sex:**

Male

Female

**2. Age:**

20 -29

30 – 39

40 - 49

50 and above

**Section B: Kind of physical facilities available to preschool children**

Preschool physical facilities	Yes	No
	1	2
3. Lighting in the classroom		
4. Windows for ventilation		
5. Children’s tables and chairs for learning		
6. Space for group play within the school premises		
7. Urinal and toilet facility		
8. Teaching and learning materials		
9. Reading and writing materials		

10. Shelve for toys and materials for recreational purposes		
11. Arts Center		
12. Different texture, colour on walls		

13. Apart from the above facilities, what are the other facilities available in the school to improve teaching and learning process?

.....

.....

.....

.....

.....

.....

**Section C: Influence of physical facilities on preschool teachers' satisfaction in the teaching and learning process**

Statement (s)	Strongly Agree 1	Agree 2	Disagree 3	Strongly Disagree 4
14. Classrooms are comfortable and adequate.				
15. Desks are comfortable and adequate.				
16. School has adequate buildings and adequate offices.				

17. Instructional tools, equipment and materials are adequate.				
18. School has enough games equipment and conducive attractive environment which motivates the teachers				

19. Apart from the above, what other form of items do you think can influence your satisfaction in the teaching and learning process?

.....

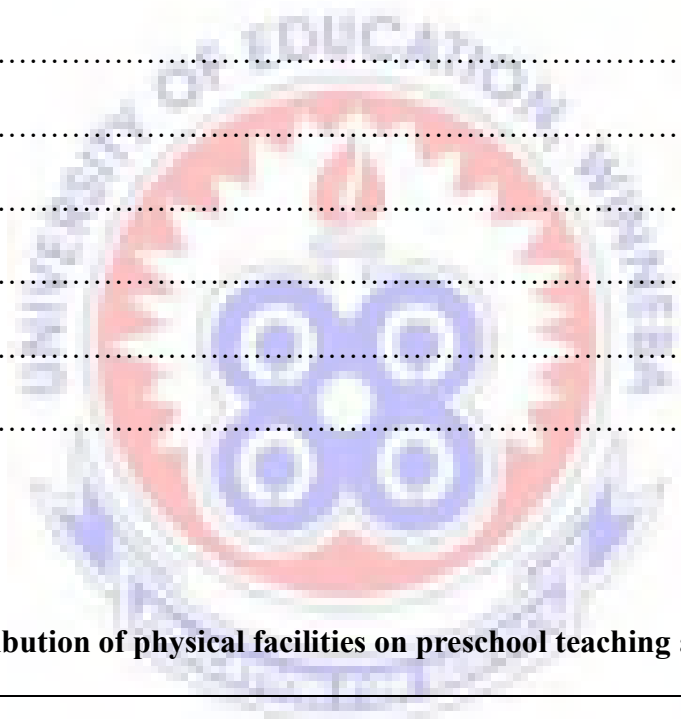
.....

.....

.....

.....

.....



**Section D: Contribution of physical facilities on preschool teaching and learning**

Contribution (s)	Yes	No
	1	2
20. Reduction of absenteeism and increasing retention of children in school		
21. Changing of children's attitudes and behaviours		

22. Developing children social, physical, emotional and cognitive domains		
23. Improving children understanding of academic work, and promoting children's health		

24. Apart from the contributions above, what other form of contribution do you think can promote preschool teaching and learning?

.....

.....

.....

.....

.....

.....



**Section E: Challenges teachers face in in using physical facilities during teaching and learning process**

Challenge (s)	Strongly Agree 1	Agree 2	Disagree 3	Strongly Disagree 4
25. Dilapidated and poor construction of school blocks				

26. Unsuitable furniture (tables and chairs/desks) for both teachers and children				
27. Lack or unsafe water and unavailability of toilet or urinal facilities				
28. Lack of teaching and learning materials for classroom activities				
29. Lack of reading and writing materials/resources to enhance preschool children’s learning activities				

30. In your own opinion, what will you recommend to address the challenge(s) stated in Section (D) above?

.....

.....

.....

.....

.....

*Thank you*

**APPENDIX “B” (INTERVIEW GUIDE)**

**Name of School:** .....

**Gender:** .....

**Age:** .....

1. What kind of physical facilities available to the children in your school?
2. What other facilities do think has to be available to improve teaching and learning apart the facilities currently available?
3. How has been the current state of physical facilities in the school?
4. How has the availability of physical facilities contributed to teaching and learning processes in your school?
5. What other form of contribution do you think can promote preschool teaching and learning apart from availability of physical facilities?
6. What challenges do teachers face in your school by using the physical facilities in the teaching and learning process?

## **APPENDIX “C” (OBSERVATION CHECKLIST)**

### **Part A**

#### **Section “A” (Indoor physical facilities)**

Items	Adequate	Inadequate	Available	Unavailable
Chairs for teachers and pupils				
Tables for teachers and pupils				
Textbooks for pupils to learn				
Teaching materials for teachers				
Colourful pictures hanged in the classrooms				
Toys and other playful materials in the classrooms				
Library facilities				
Lighting facilities				
Floor area				
Flip charts				

**Section “B” (Outdoor physical facilities)**

Items	Adequate	Inadequate	Available	Unavailable
Playground for pupils				

Urinal facility for both teachers and pupils				
Toilet facility for both teachers and pupils				
Water/storage tanks for use by teachers and pupils				
Windows for ventilation purposes				
Swinging equipment				
Climbing structures				

**Part “B” (The state of the physical facilities)**



Items/Status	Very Bad	Bad	Good	Very Good
Urinal facilities				
Toilet facilities				
Windows				
Doors				
Chairs				
Tables				
Blackboard/Chalkboard				
Taps/storage tanks				
Library facilities				
Play ground				
Classroom floor				
Classroom walls				
Swinging equipment				
Climbing structures				