

UNIVERSITY OF EDUCATION, WINNEBA

**RELATIONSHIP BETWEEN CLASSROOM ENVIRONMENT AND
ACADEMIC PERFORMANCE AMONG PUBLIC SENIOR HIGH
SCHOOL STUDENTS IN THE BEKWAI MUNICIPALITY**

PATRICK DANIELS JAHWAGAH



POST-GRADUATE DIPLOMA

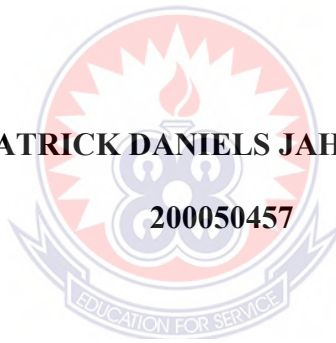
2022

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**A dissertation in the Department of Educational Foundations,
Faculty of Educational Studies, submitted to the School of
Graduate Studies, in partial fulfilment
of the requirements for the award of the degree of
Post-Graduate Diploma
(Education)
in the University of Education, Winneba**

JUNE, 2022

DECLARATION

Student's Declaration

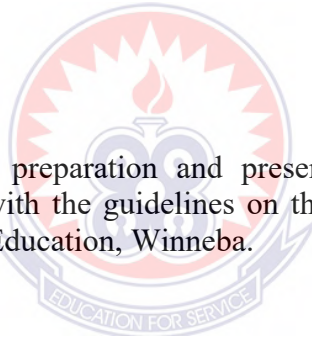
I, Patrick Daniels Jahwagah, declare that this dissertation with the exception of quotations and references contained in the published works which have all been identified and duly acknowledged, is entirely my own original work, and it has not been submitted, either in part or whole, for another degree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

Signature:

Date:

Supervisors' Declaration

I hereby declare that the preparation and presentation of the dissertation were supervised in accordance with the guidelines on the supervision of dissertation laid down by the University of Education, Winneba.



Mr. Kweku Esia-Donkoh (Supervisor)

Signature:

Date:

DEDICATION

To my brother; Mr. Justine K. Awagah.



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TABLE OF CONTENTS

Contents	Page
DECLARATION	iii
DEDICATION	iv
ACKNOWLEDGEMENTS	v
TABLE OF CONTENTS	vi
LIST OF TABLES	ix
LIST OF FIGURES	x
ABSTRACT	xi
CHAPTER ONE: INTRODUCTION	1
1.1 Background to the Study	1
1.2 Statement of the Problem	4
1.3 Purpose of the Study	5
1.4 Objectives of the Study	6
1.5 Research Questions	6
1.6 Significance of the Study	6
1.7 Delimitation of the Study	7
1.8 Organisation of the Study	7
1.9 Definition of Terms	8
CHAPTER TWO: LITERATURE REVIEW	9
2.0 Overview	9
2.1 Theoretical Review	9
2.2 Conceptual Review	11
2.3 Conceptual Framework	22
2.4 Empirical Review	23

2.5	Chapter Summary	30
CHAPTER THREE: METHODOLOGY		31
3.0	Introduction	31
3.1	Research Design	31
3.2	Population	32
3.3	Sample and Sampling Technique	32
3.4	Data Collection Instruments	33
3.5	Validity and Reliability of Instrument	33
3.6	Ethical Consideration	34
3.7	Data Collection Procedures	34
3.8	Data Processing and Analysis	34
3.9	Chapter Summary	35
CHAPTER FOUR: DATA ANALYSIS AND PRESENTAION		36
4.0	Introduction	36
4.1	Response Rate	36
4.2	Demographic Characteristics of Students	36
4.3	Analysis of Research Questions	37
CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS		45
5.0	Introduction	45
5.1	Overview of the Study	45
5.2	Summary of the Key Findings	46
5.3	Conclusion	47
5.4	Recommendations	48
5.5	Suggestions for Further Study	49

REFERENCES	50
APPENDICES	57
APPENDIX A: Questionnaire for Students	57
APPENDIX B: Letter of Introduction	60



LIST OF TABLES

Table		Page
1:	Gender Characteristics of Students	37
2:	Standard Classroom Environment	38
3:	Mean Ranges and Interpretations for Students' Academic Performance	40
4:	Academic Performance	40
5:	Relationship between Classroom Environment and Academic Performance of Students	42



LIST OF FIGURES

Figure	Page
1: A conceptual framework on the relationship between classroom environment and students' academic performance	22



ABSTRACT

The study investigated the relationship between classroom environment and students' academic performance among senior high school students in the Bekwai Municipality. The study adopted the descriptive research design. Proportionate and convenient sampling techniques were used to select a sample of 317 students. In the data collection process, questionnaire was employed where means and standard deviation, and Pearson product moment correlation were used to analyze the data. The findings of the study indicated that the standard of classroom environments of public senior high schools in the Bekwai Municipality were quite high. The study also revealed high level of academic performance among senior high school students in the Bekwai Municipality. The study further revealed that the nature of classroom environment in the various public senior high schools in the Bekwai Municipality has positive relationship on academic performance of students. It was recommended that school authorities and GES in the Bekwai Municipality should continue to put classrooms into better shapes in order to create conducive environment that stimulate effective learning since classroom environment has positive relationship with students' academic performance.



CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

All academic activities whether curricular or extracurricular originate from the school environment, and they work together with other components of teaching and learning to bring about the required changes in the behaviour of the learner. Classroom environment refers to all classroom facilities and students' academic materials that can be used for the purpose of teaching and learning (Onwuakpa & Akpan, 2000). Classroom environment can be classified into conducive or unconducive depending on the availability and adequacy of the facilities. Conducive classroom environment enhances teaching and learning process, it also motivates and encourages students toward learning, and make learning exciting and interesting which in turn leads to improved academic performance (Koroye, 2016). On the other hand, unconducive classroom environment discourages students causing them to become less interested in the learning process.

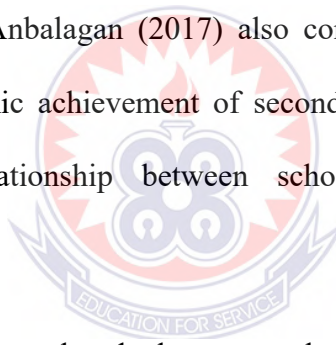
The environmental condition of a given school influences the students' response to circumstances, interaction with others and the general behaviour which may be positive or negative (Odeh, Oguche & Ivagher, 2015). Odeh, Oguche, Ivagher (2015) further noted that each environment plays a part in shaping the development of a child academically and otherwise, this is because the child gets from his environment all that is needed to help him develop best. Onwuakpa and Akpan (2000) classified classroom environment into three structures which are the physical, psychological and sociological environment. According to Koroye (2016), the school physical environment consists of physical infrastructures and facilities which include school

building, classrooms, furniture, equipment, instructional materials, laboratories, libraries, playground, among others. The location components refer to geographical location which is either termed rural (remote) or urban (city). The physical structures can be assessed based on neatness of classrooms, condition of the doors, roofing and ceiling, nature of furniture (seat and desk), proper ventilation, good lighting, level of space between seats and students' arrangement among others. Aesthetic component considers beauty or ugly state of the school. Psychological environment according to Onwuakpa and Akpan (2000) includes the speed of teaching, cohesiveness, distractions, interest, motivation, anxieties, confusion and difficulties association with classroom learning activities. The social environment includes level of classroom interaction between the teacher and the student as well as teaching aids.

The relationship between classroom environment and academic performance have been established in many studies. For example, Oluwatayo & Oyeboade (2016) examined the relationship between classroom environment and performance of secondary school biology students in Ibadan North Local Government Area of Oyo State and reported that significant relationship between classroom environment and academic performance of students in biology. Similarly, Foluso, Omotayo & Olugbugi (2017) investigated the impact of selected classroom environmental variables as determinants of biology students' achievement in senior secondary school in South West Nigeria. Results of the study revealed that selected variables had an influence on students' achievement in biology. In the same research interest, Ezike (2018) investigated classroom environment and academic interest as it correlates with the achievement of senior secondary school chemistry students in Ibadan South West Local Government Area of Oyo State. Results of the study showed a high significant

relationship between classroom environment and the academic achievement as well as students' interest and achievement in chemistry.

Duru and Oviasogie (2014) also confirmed the relationship between classroom environment and academic performance with their study which reported that private secondary school provides better classroom environment which allows them to perform better than their public school's counterpart. In support, Odeh, Oguche, Ivagher (2015) in their study on influence of school environment on academic performance of students in secondary school at Zone "A" Senatorial District of Benue State discovered that classroom environment and its physical facilities had a significant relationship with academic achievement of secondary school students. In the same Benue State, Anbalagan (2017) also confirmed the relationship between environment and academic achievement of secondary school students and found a positive significant relationship between school environment and academic achievement.



In India, Kekare (2015) explored classroom physical environment and academic achievement of students using 80 students of from different colleges in Aurangabd. Kekare reported a significant difference between the classroom physical environment and academic achievement of students. In the same country, Abu-Sayeed (2015) however found that there was no significant relationship between school environment and academic achievement in his study on the influence of school environment in relation to academic achievement of secondary school students in Malda District of India using of class IX students as sample.

From the aforementioned studies, it is key that the performance among students can partly be explained by the nature of classroom environment promoting learning. This

means that a classroom environment that is conducive to a larger extent improves students' performance and vice versa. This makes the investigation of the relationship between classroom environment and students' academic performance an important area in school-based research to extent the research findings obtained by the above authors using senior high school students in the Bekwai Municipality of Ghana.

1.2 Statement of the Problem

Quality education remains the pivot of educational development of every nation. The quality of education depends on, among other factors, the classroom conditions under which students learn (Osei-Mensah, 2020). According to Osei-Mensah (2020), poor classroom environment has been the major concern in Ghana due to the increase in enrolment figures in our schools since the inception of the free SHS and all the other social intervention programmes. As school population increases, class size also increases and this affects the classroom environment and the academic performance of students (Osei-Mensah, 2020).

One of the most significant aim of any country, especially the developing ones, is to improve the quality of schools and the achievement of students (De Grauwe, 2001). This is because learning outcomes greatly depends on the quality of education being offered (Barro, 2006). In furtherance, Barro posited that higher quality education stimulates economic growth and development. However, the focus on the proliferation of poor classroom environment and large class size especially in public senior high schools in Ghana appears to be unattended to (Osei-Mensah, 2020). In support, Ayeni (2012) postulates that there is a gap in the quality of students in crowded classrooms, using inadequate and obsolete equipment, disillusioned teachers

and poor classroom environment. These combined deficiencies perhaps affected the students' academic performances in Ayeni's (2012) study.

Similarly in Ghana, it is obvious to find large class size of students in public senior high schools in Bekwai Municipality leading to poor classroom environment. This incidence might have been as a result of the increasing demand for public senior high schools in Bekwai Municipality and this has become a major concern to most teachers in the municipality. Although, this menace has been created as result of the government's Free Senior High School policy trying to increase students' enrolment, this has affected the conducive classroom environment, which to some extent, affects students' academic performance (Osei-Mensah, 2020). Again, this confirms my personal observation from the sample of Senior High Schools I visited that, none of the schools had small class size of students and this has caused unconducive classroom environment. Based on the position of Ezike (2018), Oluwatayo and Oyeboade (2016), and Foluso, Omotayo and Olugbugi (2017) that the nature of classroom environment is a factor of students' academic performance, this study sought to clarify whether classroom environment has any significant relationship with students' academic performance using senior high school students within the Bekwai Municipality.

1.3 Purpose of the Study

The main purpose of the study was to investigate the relationship between classroom environment and students' academic performance among senior high school students in the Bekwai Municipality.

1.4 Objectives of the Study

The research objectives guided the study were to:

1. ascertain the standard of classroom environment in public senior secondary schools in the Bekwai Municipality.
2. determine the level of academic performance of senior secondary schools' students in the Bekwai Municipality.
3. establish the relationship between classroom environment and senior secondary school students' academic performance in the Bekwai Municipality.

1.5 Research Questions

The following research questions were formulated to guide the study:

1. What is the standard of classroom environment in public senior secondary schools in the Bekwai Municipality?
2. What is the level of academic performance of senior secondary schools' students in the Bekwai Municipality?
3. What is the relationship between classroom environment and senior secondary school students' academic performance in the Bekwai Municipality?

1.6 Significance of the Study

It is envisaged that the study will be beneficial to school authorities and policy makers. The outcome of the study is, therefore, expected to assist all stakeholders, government and corporate bodies to formulate policies that will create a very good classroom environment for students. The findings of this study also uncover the level of academic performance of public senior high school students. This would help the students to strengthen the factors such as study habit and amongst others that can increase their academic performance. The findings of this study again reveal the

relationship that exist between classroom environment and students' academic performance. In practice, this would help GES, policy makers and other stakeholders of education to put across measures that can improve classroom environment in order to increase performance. In theory, the findings of the study would form basis for further research in student participation in the administration of Senior High Schools.

1.7 Delimitation of the Study

The study focused on variables such as the relationship between classroom environment and students' academic performance to the neglect of other educationally pressing issues. The scope of the study also covered students in public Senior High School students to the neglect of students in private Senior High Schools. The study also focused on Senior High Schools within the Bekwai Municipality to the neglect of other municipalities.

1.8 Organisation of the Study

The organisation of the study is in five chapters. Chapter One is made up of the background to the study, statement of the problem, purpose of the study, research questions, significance of the study, delimitation of the study, and organisation of the study. Chapter Two deals with the review of literature; documents both published and unpublished such as books, newspapers and journals that had useful information on the topic were reviewed. Chapter Three consists of the methodology used for the study including research design, study area, population of the study, sample and sampling procedure, research instruments, piloting of instruments, data collection procedure and data analysis procedure. Chapter Four highlights on results of the data that was gathered and discussion of the results whiles the last chapter comprises

summary of the main findings, conclusions drawn after the analysis, recommendations and suggestions for further study.

1.9 Definition of Terms

Some of the words within the study are given operational definitions as they are used in the context and scope of the research as follows:

Academic Performance: This refers to the students' achievement, scores within the class and his position relative to all those subjected to the same test.

Classroom Environment: It includes all beyond the physical arrangement of the class which is created based on the interaction of two key players in the classroom, namely student and teacher. Classroom environment is centred on student participation rate, teacher support and communication of learning goals.



CHAPTER TWO

LITERATURE REVIEW

2.0 Overview

This chapter focuses on relevant literature of authors in relation to the study. It discusses the assertions, observations and opinions of researchers and authors on the topic under study. Therefore, the chapter explained the theoretical review of the study, the conceptual review, conceptual framework and empirical studies.

2.1 Theoretical Review

The theoretical review of this study basically explains the theory(s) that is deemed appropriate for the focus of the study. In this regard, the study adopted the social constructivism theory.

2.1.1 Social constructivism theory

The theoretical framework for this study anchors on the social constructivism theory by Lev Vygotsky (1978). In his work, Vygotsky emphasized the roles of social interaction and instruction. He proposed that, “development does not precede socialization, but rather social structures and social relations lead to the development of mental functions” (Huitt, 2000, pp 56). Social interaction plays an important role in student learning. Social interaction plays a fundamental role in the process of cognitive development. It is through social interaction that students learn from each other, as well as adults. Fogarty (1999) stated, “Vygotsky’s theory suggests that we learn first through person-to-person interactions and then individually through an internalization process that leads to deep understanding” (p. 77). The theory was based on three major themes which include social interaction, the more knowledgeable other, and the zone of proximal development.

In contrast to Piaget's (2003) understanding of child development (in which development necessarily precedes learning), Vygotsky felt that social learning precedes development. He states: "Every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (inter-psychological) and then inside the child (intra-psychological)" (Huitt, 2000). The more knowledgeable other refers to anyone who has a better understanding or a higher ability level than the learner, with respect to a particular task, process, or concept. The more knowledgeable other is normally thought of as being a teacher, coach, or older adult, but the more knowledgeable other could also be peers, a younger person, or even computers.

The zone of proximal development is the distance between a student's ability to perform a task under adult guidance and/or with peer collaboration and the student's ability in solving the problem independently. According to Vygotsky, learning occurred in this zone. Vygotsky focused on the connections between people and the sociocultural context in which they act and interact in shared experiences. According to Vygotsky, humans use tools that develop from a culture, such as speech and writing, to mediate their social environments. Initially, children develop these tools to serve solely as social ways to communicate their needs. Vygotsky believed that the internalization of these tools leads to higher thinking skills.

In line with the focus of this study, the social constructivism theory is appropriate for this study since the theory basically anchors on social interaction and instruction. In this regard, it is through social interaction that students learn from their environment. In using this theory, the more knowledgeable person like the teacher makes a conscious effort to create a classroom environment that can stimulate learning and

later improve students' academic performance. However, in an unfriendly classroom environment, the teacher will be unlikely to apply or engage students in scaffolding, small groups, cooperative learning, group problem-solving, cross age tutoring, assisted learning, and/or alternative assessment which can affect students learning and consequently their academic performance.

2.2 Conceptual Review

The conceptual review covers the relevant concepts in the study. In line with the focus of this study, the relevant concepts reviewed were: classroom environment, measuring classroom environment, importance of classroom learning environment, factors affecting classroom learning environments, academic performance, and relationship between classroom environment and academic performance

2.2.1 Classroom Environment

Aldridge (2000) has viewed that classroom learning environment is very important and a powerful agent to enhance thinking of the learners. Classroom learning environment can be made more effective by focusing student direction, social support, academic engagement, explicit quality performance criteria and self-regulation. The innovative teaching learning environment of schools has impact on student achievement and attitude towards learning. The use of computers and information technology in schools creates an innovative and interesting learning environment for both teachers and students through which students can be made higher achievers. The computer-based classroom teaching learning environment makes positive perception for students which is helpful in order to obtain high achievement (Lasley, 2006; William, 2007). Education emphasizes the drawing up ways for improvement in quality of teaching and learning by enhancing knowledge, skills and abilities of

learners through motivation in classroom environment. The academic achievement or performance of learners depends upon classroom learning environment under professional teachers. The position of instructors is to influence directly or indirectly on achievement of students during classroom teaching (Lasley 2006; William, 2007).

The classroom environment facilitates the learner socially and creates the ability of mutual respect and honour among the learners. The learners obtain emotional support and encouragement from teachers and peers to achieve educational goals (Patrick, Ryan, & Kaplan, 2007). Classroom environment includes physical, social and emotional aspects that facilitate teaching and learning process to achieve educational goals. The growth and behaviour of students are influenced by teachers and peer interaction. It is the basic responsibility of the teacher to create the positive classroom environment for learning. Attractive classroom learning environment promotes teaching and learning process. Classroom environment may be considered as an invisible hand to enhance achievement level (Bierman, 2011). Detail of various aspects of classroom include covered area and size, physical arrangement, furniture and fixtures arrangement, preferences for environment, flipped learning, modern facilities of informational technology, teacher-student ratio, opportunities of freedom in the classroom, control of disruptive behaviour, corporal punishment and classroom management.

2.2.2 Measuring classroom environment

In studies of classroom environment by Miller and Cunningham (2011), a plethora of measurement tools have been employed, including direct, objective observational measures as well as more subjective perceptions of the classroom environment. The types of items that have been used range from low inference (e.g., frequency counts of

behaviour) to high inference (e.g., classroom members' perceptions about meaning of behaviours). There has been a heavy reliance on perceptual measures in much of the literature, supported by the argument that observational measures tend to be low-inference based and are of a limited time period, whereas perception measures better capture high-inference constructs, and therefore better represent day to day experience in the environment (Miller & Cunningham, 2011).

Moreover, advances in statistical analyses have allowed for better incorporation of multiple student observations in one classroom to be aggregated as a measure of classroom environment. In contrast, an objective observation tool is limited to a single opinion or an agreement statistic between two or three independent observers (Miller & Cunningham, 2011). Some of the most extensive work on measuring classroom environment was completed in the 1970s by Moos (2009), resulting in the widely used Classroom Environment Scale (Moos, 2009; Miller & Cunningham, 2011). Moos' work, which has permeated the literature on classroom environment, is based on three essential areas of classroom environment: (1) Relationship dimension, which focuses on the interpersonal relationships between students and the teacher in a classroom; (2) Personal Development dimension, which centres on individual characteristics of the classroom member; and (3) System Maintenance and Change dimension which includes attributes such as classroom control and order as well as responsiveness to change.

As delineated above, much of the research on classroom environment has also been attuned to these three dimensions or combinations thereof. The mid-1990s was marked by a shift to more high-inference measures such as the What Is Happening In this Class (WIHIC), a questionnaire developed by Fraser, 2002; Miller and

Cunningham (2011). This scale focuses entirely on student perceptions of a wide range of dimensions of the classroom, including student cohesiveness, teacher support, involvement, investigation, task orientation, cooperation, and equity. Each of the dimensions in the WIHIC can be mapped to the three major dimensions of Moos' schema.

2.2.3 Importance of classroom learning environment

The learning environment will dictate how well or poorly a child will learn. A major factor in the learning environment is the teacher's role. Teachers must take their position as a role model seriously. Through observing role models, children hone skills that will assist their successful assimilation into society. Classroom management can potentially have a profound effect on learning (Marzano, 2003). Instructional classroom management and behavioural classroom management are considered to be components of effective instructional practices (Marzano, 2003; Marzano & Pickering, 2007; Marzano & Marzano, 2003). Quality teachers possess an array of personal characteristics that impacts their instructional practices (Chambers, Henson & Sienty, 2001). It is imperative that classroom behaviour is managed so that student achievement can occur. The study of classroom management and its impact on student achievement will be useful in an era when research tells us that teachers are probably the single most important factor that we can do much about (Marzano & Marzano, 2003).

A classroom that lacks a teacher that exhibits quiet control will see behavioural issues exacerbate. The outcome will be deleterious (Marzano & Pickering, 2007). Structuring a classroom so positive teacher student relationships develop will have a trickle-down effect. Positive behaviour will appear in venues such as the playground,

parental interaction, and socialization with other children. My teaching style is direct. Supply the children with a warm and trusting classroom environment. In positive structured environment children develop internalized behaviour mechanisms (Marzano & Marzano, 2003). In the fall, a class begins as a teacher-lead environment. A good educator should gravitate from teacher lead, to a classroom of students who are self-starters. Children should be involved in decision making processes (Marzano & Pickering, 2007).

These should include but not be limited to, student input in classroom policies, themes for academic units, and roles students will play in development of school projects. Involving children in the choice making process is essential in creating an autonomous classroom environment (Marzano, 2003). Prevention is a key component in creating positive classroom environment that is void of behaviour issues. Build positive attributes, not negative self-efficacy. Developing classroom rules as a team, using inclusive social activities, and developing problem solving activities have proven to be an asset to avoiding behaviour issues in my class (Marzano, 2003).

2.2.4 Factors affecting classroom learning environments

In literature, classroom environment is affected by numerous factors which a major factor identified is classroom discipline. Classroom disciplinary climate not only affect student outcomes and attainment but is a prominent policy issue in a number of countries and regions (Lippman, 2010). Students' actions in classrooms and a safe and productive learning environment are important for many schools and can be a challenging dimension of teachers' work. Factors owing to lack of mastery of what has been taught, faulty methods of work of study, and narrowness of experimental background may affect the learning process of any pupil in the classroom. If the

school proceeds too rapidly and does not constantly check up on the extent to which the pupil is mastering what is being taught, the pupil accumulates a number of deficiencies that interfere with successful progress (Combs, 2002). Personal factors, such as instincts and emotions, and social factors, such as cooperation and rivalry, are directly related to a complex psychology of motivation.

It is a recognized fact that the various responses of the individual to various kinds of stimuli are determined by a wide variety of tendencies (Houston, 2007). Some of these innate tendencies are constructive and others are harmful. For some reason a pupil may have developed a dislike for some subject because he may fail to see its value, or may lack foundation (Houston, 2007). This dislike results in a bad emotional state. Some pupils are in a continuing state of unhappiness because of their fear of being victims of the disapproval of their teachers and classmates. This is an unwholesome attitude and affects the learning process to a considerable degree. This is oftentimes the result of bad training.

High levels of self-efficacy were found to influence abilities to regulate and assess responses and handle volatile situations, and to adjust to a new classroom environment (Houston, 2007; Combs, 2002; Weiss, 2007; Jones, 2009). Chen, Zeng and Yang (2010) found a relationship between self-efficacy and an intended career in entrepreneurship. The teacher as an individual personality is an important element in the learning environment in the failures and success of the learner (Chen et al., 2010). The way in which his personality interacts with the personalities of the pupils being taught helps to determine the kind of behaviour which emerges from the learning situation.

The supreme value of a teacher is not in the regular performance of routine duties, but in his power to lead and to inspire his pupils through the influence of his moral personality and example (Suleman, Aslam, Javed & Hussain, 2014). Strictly speaking, personality is made up of all the factors that make the individual what he is, the complex pattern of characteristics that distinguishes him from the others of his kind. Personality again is the product of many integrating forces in the classroom and this means that teachers need to be introspect about the kind of personality trait they portray and how that can affect the personality of students in the classroom.

2.2.5 Academic performance

Academic performance refers to excellence in all academic discipline. Steinberg (2005) posits that academic performance encompasses students' ability and performance; it is multi-dimensional; it is intricately associated to human growth and cognitive, emotional, social and physical development. The academic performance of any student cannot be separated from the classroom environment, and the home environment in which the student lives. A healthy classroom or home environment offers emotional security to a child. Academic performance of students is key feature in education. According to Ogbemudia and Aiasa (2013) academic performance is considered to be centre around which the whole education system revolves. Kang (2011) states that academic performance is the knowledge gained which is assessed by marks by a teacher and or educational goals set by students and teachers to be achieved over a specific period of time.

Kang (2011) further adds that these goals are measured by using continuous assessment or examination results. Okeke, Nzewie and Njoku (2012) opines that the academic performance of students determines the success or failure of any academic

institution. Academic performance of students has an influence on the socio-economic development of a country. In the same vein, Muola (2010) asserts that, students' academic performance serves as bedrock for knowledge acquisition and the development of skills. More so, the topmost priority of all educators is academic performance of students. The performance tests are used to arrive at academic performance. Therefore, performance tests are instruments used to measure learning abilities (Muola, 2010). In some countries, academic performance is measured by the academic index.

In Ghana, academic performance of students at the end of the schooling process is mainly measured by the students' performance in external examinations like West Africa Examinations Council (WAEC) BECE examinations. Kang (2011) states that individuals in academic performance have been linked to differences in intelligence and personality with higher mental abilities as demonstrated by IQ test. Quick learners and those who are higher in conscientiousness (linked to effort and achievement motivation) tend to achieve highly. The parents/guardians of the students are responsible for providing the right home environment that will facilitate effective learning for their children (Kang, 2011). What the students learn at home and how their family motivates them towards education contributes to the students' success or failure at school. Academic performance refers to the degree of a student's accomplishment of his or her tasks and studies (Kang, 2011). In the views of Agba (2011), academic performance is the most well-known indicator, measuring academic performance is grades, which reflects the student's score for their subjects and overall tenure. Success is measured by academic performance in most educational institutions. In this case, how well a student meets standards set out by an institution

itself or an external examination body either set up by the government or an independent outfit signifies success or poor performance.

According to Edeh (2015) academic performance is a measure of knowledge gained in formal education usually indicated by test scores, grade, grade points average and degrees. Here, the achievement level of the student is judged by the marks that the students have scored in the quarterly examinations. According to Elujekwute (2019), academic performance which is synonymous with academic achievement is commonly measured by examination or continuous assessment. In the same vein, Bassert, Doumen, Buyse and Versehueren (2011) see academic performance as students' success in meeting short- or long-term goals in education. Academic performance can be conceptualized as the knowledge obtained or skills developed in the school subjects usually designed by test scores or marks assigned by the teacher. From the foregoing discussion, one can confidently define academic performance as the attainment of educational aims and objectives by the students after having undergone a period of teaching and learning. It includes the performance of students in internal and external examinations to the satisfaction of the examiners. This implies that for the students to record high academic performance, moderating factors in the teaching and learning process should be adequately controlled to achieve desired results.

2.2.6 Relationship between classroom environment and academic performance

There is no misgiving that student's high-quality academic performance and outcomes is connected to the nature of learning environment and the available useful facilities. Various experiential studies have established that learning environment is a critical necessity for student's academic achievement in Ghana. The educational process of

development occurs in physical, social, cultural and psychological environment which implies that a proper and adequate environment is very much necessary for a fruitful learning (Mudassir & Norsuhaily, 2015). High academic achieving learners are likely to have been exposed to curriculum content under an ideal learning environment. Hence the affirmation of the opinion of Shamaki (2015) that “educational attainment/achievement is likely to be determined by the idealness of the learning environment”.

Shamaki (2015) conducted a study to determine the influence of learning environment on students’ academic achievement at senior secondary school level in Yobe state, Nigeria and found a significant difference between the mean performance of students taught in an ideal learning environment and that of students taught in a dull learning environment. Similarly, Adamu (2015) examined the relationship of learning environment on the Performance of Students in public secondary schools in Taraba State, Nigeria and the findings revealed a significant difference in the performances of the two groups (Experimental and Control) implying that a classroom building; class with adequate furniture, class with small class population and the use of instructional materials has positive relationship or impact on the performance of students in junior Secondary schools.

In a related development, Mudassir and Norsuhaily, (2015) conducted a study to examine how school environment influence students’ academic performance in selected secondary schools within Kuala Terengganu. The result of the study indicated that students from a school with adequate facilities, good teachers and favourable environment perform better than those from schools with fewer facilities, unqualified teachers and less enabling environment. Another research by Duruji,

Azuh and Oviasogie (2014), which examined the relationship between learning environment and students' performance in external examination in secondary schools in Ota, Nigeria considering factors such as school facilities, class size, school location and school plant planning, aesthetics, maintenance culture, sanitation, conveniences. The study established that, "the state of learning environment and quality of infrastructure, together with the extent to which they are being maintained has a strong bearing or relationship with academic performance among students".

Furthermore, Ezike (2018) investigated classroom environment and students' academic interest as correlates of achievement in Senior Secondary Chemistry students in selected Public Secondary Schools in Ibadan, Oyo State, Nigeria. The result showed significant relationships between classroom environment and academic achievement, while combined contribution of classroom environment and academic interest was equally significant. Gilavand's (2016) study which focused on the relationship between environmental factors (classrooms' open space, noise, lighting and paintings in educational institutions) and learning and academic achievement of elementary students, found that environmental factors (appropriate colouring, lighting of educational environment and schools' open space) have positive and significant relationship with learning and academic achievement of elementary school students. Eimuhi and Ogedegbe (2016) in a research titled the effect of environmental factors in teaching and learning in primary and secondary schools examined environmental factors to determine the outcome of teaching and learning at all times and in all places and concludes that the more enriched the learning environments is, the greater and more widespread are the benefits for academic performance and other student outcomes.

Similarly, Odeh, Oguche, and Ivagher, (2015) conducted a research whose main thrust was to investigate the relationship between school environment on academic achievement of students in secondary schools. The results of the study indicate that school climate, discipline and physical facilities have significant influence on academic achievement of secondary school students in Benue State, Nigeria. This implies that schools that fail to provide the necessary learning facilities and create a conducive atmosphere for teaching and learning may hardly put in the best in their students especially in the area of academic achievement.

2.3 Conceptual Framework

Miles and Huberman (1994) explained that a conceptual framework may be an illustration or presentation in a narrative form. The conceptual framework should include the key factors, variables, or specific topic of study. The framework of this study as constructed by the researcher is provided in figure 1.

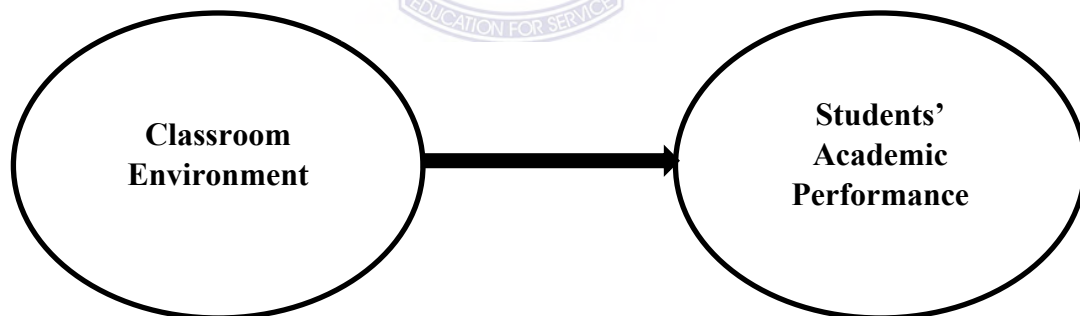


Figure 1: A conceptual framework on the relationship between classroom environment and students' academic performance

Source: Author's Construct (2022)

The conceptual framework of this study was designed in line with the concepts and variables obtained from the empirical studies reviewed. The main aim was to clarify

the relationship between the independent variables (classroom environment) and dependent variable (students' academic performance) using senior high school students in the Bekwai Municipality. The relationship between the independent variables and dependent variable is shown in Figure 1. This framework gives an overview on whether classroom environment in which students learn relates or explains their academic performance as suggested in literature by some authors. In this regard, the researcher basically sought to clarify this relationship using samples of senior high school students in the Bekwai Municipality.

2.4 Empirical Review

In literature, quite a number of studies have been conducted to explore the relationship between classroom environment and students' academic performance.

2.4.1 Standard of classroom environment

Duruji, Azuh and Oviasogie (2014) on their study of learning environment on academic performance on secondary school, external examination in Nigeria said the physical characteristics of schools have a variety of effects on teachers, students, and the learning process. They stated poor lighting, noise, high levels of carbon dioxide in classrooms, and inconsistent temperatures make teaching and learning difficult. Poor maintenance and ineffective ventilation systems lead to poor health among students as well as teachers, which lead to poor performance and higher absentee rates (Fraser, 2002). These factors can extremely lead to the poor performance of the secondary students.

Another study conducted by Eric (2005) on supportive classroom environment in promoting academic success postulates that the classroom environment has broad influence on students' learning and growth, including a significant aspect of their

social, emotional and ethical development. The study findings further reveal that, when students find their classroom environment supportive and caring, they are less likely to become involved in substance abuse, violence and other problem behaviour.

However, Ngina (2013) conducted a study on examining the relationship between school environment, psychological environment and home environment and how they all influence the academic performance of the pupils. Descriptive survey design was used. The target populations were pupils, and teachers from public primary schools in Kaiti Division. Stratified random sampling was used in selecting the population sample. Instruments for data collection were questionnaires for teachers and pupils. Data was collected in selected schools in the division using the questionnaire designed. The data was then processed using Statistical Package for Social Sciences (SPSS). Piloting of the instruments was done at Makongo primary School. The results were intended to guide stakeholders in improving the learning environment with a view to improving pupil's performance. From the findings, it was concluded that the major factors hindering pupils' performance were lack of teaching and learning resources, lack of adequate physical facilities, very high teacher pupil ratio (TPR).

The ratio of the wash rooms for both genders was very high and therefore the hygiene and sanitation facilities were not adequate and therefore low cleanliness of the toilets rendered the school environment non conducive for learning. The lack of learning and teaching resources negatively influenced the pupils' performance. The teachers used participatory method of teaching as they allowed the pupils to ask questions. The participatory method of teaching by the teachers served to enhance the learning environment as the pupils were part of the learning process. The learning environment at pupils' homes was not conducive for learning which contributed to poor

performance. The family that the pupils came from played a significant role in enhancing the academic performance of the pupils. The learning environment at home was highly non-conducive for learning and therefore the pupils' performance was negatively affected. The study recommends that to avert the problem of declining pupils' academic performance in schools the government and other stakeholders should invent new policies and strategies to improve the school environment. The school management and other policy makers in the education sector should sensitize the parents and pupils on ways of improving the home environment and make it more conducive for learning.

Another study conducted by Elianshisariya (2020) aimed at examining the role of learning environment to students' academic performance in public secondary schools in Shinyanga Municipal. The study used a case study research design and employed both qualitative and quantitative research approaches. The sample size of the study was 70 respondents but the data collected and analyzed from 52 respondents of which 21 were teachers from public secondary schools, 5 heads of school, 25 students, and 20 parents. In the sampling process, stratified sampling technique was used to select teachers and students while purposeful sampling was used to select heads of schools and parents. The instruments used included questionnaires, observation, documentary review and interview. From the findings the study observed that most of schools visited have few classes compared to number of students available; overcrowded classes; scarcity of books, apparatus and other teaching and learning materials; some of the schools are located far from students' area of domicile; the schools lack important infrastructures like electricity, clean water and hostels. Furthermore, in all schools observed, there is no provision of food services to the students, and there are

still corporal punishments in secondary schools visited. The study also found that it is important for the government and other educational stakeholders to support the schools through construction of enough buildings, provision of teaching and learning materials, provision of basic needs in school, employing of enough and qualified teachers, rehabilitation of school buildings, and provision of education fund.

2.4.2 Relationship between classroom environment and students' academic performance

Matoy (2021) conducted a study on the relationship between classroom environment and the academic achievement. The respondents were 55 third year Radiologic Technology students enrolled in Cebu Doctors' University. They were made to rate their classroom environment by answering the Classroom Environment Assessment Tool formulated by the researcher. The final grades of the students in each major course were used to determine the level of academic achievement. The study utilized the descriptive correlational design to determine the relationship between the classroom environment and the academic achievement. It was found out that there was a significant correlation between the physical environment and the students' academic achievement in Computer Tomography Scan and as the quality of the physical environment increased, the academic achievement of the student also increased. The results also showed that there was a significant correlation between the emotional climate and the Nuclear Medicine students' academic achievement. The findings suggest that the physical environment slightly influenced the academic achievement of the students in Radiologic Technology.

Similarly, Melaiye, Iorshaer, Cephas, Kuru, Bulba, Chuboh, Galadima, Sylvanus, (2021) conducted a study which focused on classroom environment and students'

academic performance using ten (10) secondary schools which were selected from rural communities in Jalingo local government in Nigeria. Data was obtained from twenty (20) respondents where percentage, t-test and ANOVA statistical methods were used to analyse the data. The result derived from the analysis revealed that there was significant and positive relationship between classroom environment and the students' academic performance. Based on these findings it was also recommended that teachers should be motivated to create a good social, psychological and physical climate in the classroom, and schools' counsellors should reflect upon various factors that help students in achieving their academic goals. It was recommended that the government of Taraba State should improve these areas in order to ensure better performance of students in their academic pursuit.

In another study conducted by Muddasir and Norsuhaily (2015) focused on school environment influence on students' academic performance, the main objective of the study was to analyse how classroom facilities, teachers and environment significantly affect secondary school students' academic performance in Kuala Terengganu, Malaysia. Descriptive Survey Research design was used in which data from 377 respondents was collected using self-administered questionnaire from 4 selected secondary schools within Kuala Terengganu. Stratified random sampling technique was used to sample the respondents. The data was analysed using regression analysis where the result indicated that students from a school with classroom having adequate facilities, good teachers and favourable environment perform well than those from schools with fewer facilities, unqualified teachers and the less enabling classroom environment. Finally, recommendations were given to parents, teachers, policy makers and educational administrators.

Akoto-Baako's (2018) study investigated how the psychological classroom environment influenced students' academic performance. To achieve this, the survey design was employed. 320 students were purposively selected from ten (10) public senior high schools in the Kumasi Metropolis. Questionnaire with a reliability coefficient of 0.791 was used to obtain data from the respondents. It was unravelled that psychological classroom environment had a great influence on the students' academic performance. It has been recommended that headteachers and teachers should create an enabling environment for students to participate in classroom activities.

However, Iloba (2009) investigated the relationship between students' perception of classroom environment and their achievement in secondary school geography. Two instruments namely geography classroom environment scale questionnaire (GCESQ) and cumulative score of SS2 geography students were used to collect relevant data from a sample of 295 SS2 students randomly selected from 10 senior secondary schools in Ika Local Government Area of Delta State. The schools were selected by stratified random sampling technique. Mean and standard deviation were used to answer the research questions 1 and 2 while Pearson correlation was used to answer research question 3. Stepwise analysis was used to answer research question four, five and also used to test the null hypothesis. The findings of the study revealed that classroom environmental factors correlated negatively with students' achievement in senior secondary geography schools and that location of school whether urban or rural has little or no effect on students' achievement.

Another study by Wisneski, Ozogul, Bichelmeyer (2016) investigated the impact of the prerequisite course learning environment on student performance in post-requisite

coursework. The study focused on undergraduate accounting, and employed a mixed methods approach to answer two main research questions. The results of this study indicated that student academic performance in the post-requisite course does not vary based on the learning environment of the prerequisite course. Additionally, while all students report encountering challenges, face-to-face students rely on self-study, collaboration with peers, and tutoring to overcome these challenges. Conversely, online students rely primarily on self-study to resolve similar challenges. The findings of this study suggest administrators should consider offering online prerequisite courses before, or in conjunction with their associated post-requisites, and provide similar access to external resources to assist with student learning challenges irrespective of learning environment.

Danial (2004) examined the impact of the classroom environment and peer influence on the students' academic performance. The study assessed classroom environment factors and peer influence in terms of the level of psychological impact they have on learners. Twenty-one public secondary schools in sabbatical established that school environment exert a potent influence on students' academic performance. The classroom which also acts as a second home for learners has been found to have a strong relationship with students' academic performance.

Fisher (2008) reported that physical environment can affect students' comfort and also their ability to learn to some extent and perform well. Fisher further reported that students who are comfortable in their various classrooms are likely to get much information to learn as compared to those who are uncomfortable. Unfavourable classroom environment can discourage the learners and they become less willing to learn. Teachers should have and apply specific abilities without which their influence

may not be reflected in their students' performance in their subject. It is important to note that teachers have a substantial impact on students' academic performance.

2.5 Chapter Summary

This chapter is made up of four sections that include a theoretical review, conceptual review, conceptual framework and empirical review. The social constructivism theory by Lev Vygotsky (1978) underpinned the study. The theory was based on three major themes which include social interaction, the more knowledgeable other, and the zone of proximal development. The social interaction plays an important role in student learning. This is achievable when classroom environment is conducive and encourages students to learn and increase their performance. The more knowledgeable other refers to anyone who has a better understanding or a higher ability level than the learner, with respect to a particular task, process, or concept who focuses on making a conscious effort to create a conducive environment in order to increase students' academic performance. Lastly, the zone of proximal development is the distance between a student's ability to perform a task under adult guidance and/or with peer collaboration and the student's ability in solving the problem independently. This is dependent on the connections between students and the sociocultural context in which they act and interact in shared experiences. Also, concepts such as the concept of classroom environment, measuring classroom environment, importance of classroom learning environment, factors affecting classroom learning environments, academic performance, and relationship between classroom environment and academic performance were reviewed. Finally, an empirical review was conducted according to the research questions.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

The methodology section of this study describes the research design and the study area, the population, sample and sampling procedures, data collection instrument, data collection procedure and data analysis procedure. Ethical issues that were considered in the study were also discussed.

3.1 Research Design

The study adopted the descriptive research design. Descriptive survey design describes the characteristics of the population or phenomenon that is being studied (Adi, 2019). The design is an efficient way to collect information from a large group of people (Collie & Rine, 2009). Williams as cited in Apau (2016) maintained that descriptive research design has the ability to obtain data regarding persons or groups of persons who possess some identified features, perceptions, behaviours, and beliefs with questioning and soliciting of responses concerning the current status of the subject of the study. Therefore, descriptive research design users seek to describe or explain peoples' current attitudes, opinions, thoughts, and perhaps, reports of behaviour surrounding an issue or event (Rubin, Rubin & Piele, 2005). Again, according to Kraemer as cited in Glasow (2005), there are three (3) main distinguishing characteristics of survey design. One of these characteristics is that it is used to quantitatively describe specific aspects of a given population which examines the relationship among variables.

According to DeFranzo (2012), descriptive surveys describe characteristics of a large population so the researcher deem it necessary since the sample size for this study was large. Descriptive researchers provide a quantitative or numeric description of the trends, attitudes, or opinions of a population by studying a sample of that population with the intent of generalising from a sample to a population (Fowler as cited in Creswell, 2014). There is no attempt to control conditions or manipulate variables when it comes to descriptive designs. However, a descriptive design was chosen basically because the study intended to describe the characteristics of the population or phenomenon under investigation. More so, the design was chosen because according to Cohen, Manion and Morrison (2013) it is a suitable design for large-scale data from a representative sample of a population with the sole aim of describing the nature of existing conditions. Additionally, based on the positions of the above authors, the study employed the descriptive research design in order to solicit for information from students to be able to accurately describe the nature of their classroom environment as well as their level of performance (Amedahe, 2004).

3.2 Population

Accordingly, Kankam and Weiler (2010) avers that the population of a study refers to everyone who the research focuses on. The population of the study comprise all the form 3 students in all the six public senior high schools in the Bekwai Municipality with a total population of 1,820.

3.3 Sample and Sampling Technique

The sample size comprised all the 317 form 3 students within the municipality. In selecting the students for the study, proportionate sampling technique was used to distribute the 317 students over the six public senior high schools. This enabled the

researcher to know the number of students to select from each school. Afterwards, convenient sampling technique was used to select students after knowing the number of students selected from each school.

3.4 Data Collection Instruments

The instrument used in this study was made up of three sections labelled A, B, and C. Section 'A' was made up of items on the demographic characteristics of the students. Section 'B' was made up of items measuring the standard of classroom environment whiles Section 'C' contained items measuring the level of students' academic performance. All the items were measured on four-point Likert scale.

3.5 Validity and Reliability of Instrument

In ascertaining the validity of the instrument, both face validity and content validity were considered. In ascertaining the face validity of instrument, the questionnaire was given to my supervisors to ensure face validity. The content validity of the instrument was first of all ensured by constructing the items based on the literature reviewed. Secondly, it was given to my supervisor to assess whether the items were constructed in line with the research questions. To improve the reliability of the instrument, the instrument was piloted at Adansi Asokwa Municipality in order to ascertain the reliability. The pilot testing was conducted at sing a sample 50 randomly sampled form 3 students from 2 public basic schools in the Adansi Asokwa Municipality. Afterwards, Cronbach's coefficient alpha was used to determine the reliability of the responses generated by the instrument and a coefficient of 0.73 was obtained which is within the acceptable benchmark of an instrument being reliable.

3.6 Ethical Consideration

In the data collection phase, the students were given informed consent form to sign before participating in the study. They were again given the freedom to exit anytime they want to do so. Again, anonymity and confidentiality were stressed in the research study and were observed in the research study. The identity of the students was kept anonymous by allowing them not to write their names on the instruments. Students were assured of confidentiality by giving them assurance that the study was for academic purposes and that no information provided would be revealed to a third party.

3.7 Data Collection Procedures

Before starting the data collection process, an introductory letter was obtained from the Head of Department of Educational Foundations of University of Education, Winneba. The letter (Appendix B) was then sent to the headteachers of the various public basic schools within the Bekwai Municipality to enable the researcher get their needed assistance and cooperation. In each school, the purpose of the study was first explained to the headteachers and secondly to the students and assured them of anonymity and confidentiality. The students were also encouraged to respond freely and as honestly as possible.

3.8 Data Analysis

In the data analysis phase, editing, coding and statistical computation were taken into consideration. Specifically, right after data collection, the items for each subject were scored and labelled serially to ensure easy identification, errors and easy coding. The data gathered were then analyzed with the aid of Statistical Packages for Social Sciences (SPSS, version 22) after the data had been collated and edited in order to

address questions that were answered partially or not answered at all. In analyzing the demographic characteristics of the students, percentages and frequencies as well as tables were used to analyze them. Means and Standard deviations were used to analyze Research Questions 1 and 2 while Research Question 3 was analyzed using Pearson Moment Product Correlation.

3.9 Chapter Summary

The chapter has elaborated procedures used in accomplishing the focus of the study. The chapter dealt with the research design, population and sample, data collection instruments, data collection and analysis procedures as well as validity and reliability of the instruments have been described.



CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION

4.0 Introduction

This chapter entails the presentation of the results of the analysis of data. The chapter is presented under four major sections, namely the response rate, descriptive statistics of demographic characteristics of the respondents, presentation of results of the research questions and finally, the discussion on the results of the analyses.

4.1 Response Rate

The purpose of the study was to investigate the relationship between classroom environment and students' academic performance among senior high school students in the Bekwai Municipality. To achieve the focus of the study, the descriptive research design of the quantitative approach was employed. A total of 317 questionnaires were administered to the students. However, 292 questionnaires were successfully retrieved. Therefore, the study attained a response rate of 92.1%.

4.2 Demographic Characteristics of Students

This section of the chapter highlights the summary of the gender characteristics of the students who were used in the study. The demographic compositions of the respondents included sex. The descriptive statistics are summarised in Table 1. The gender characteristics of students as shown in Table 1 indicated that, out of the 292 form 3 students used in the study, 124 (42.47%) of them were males whiles 168 (57.53%) were females. The data shows that most of the students who took part in the study were females.

Table 1: Gender Characteristics of Students

Characteristics	Frequency	Percentage (%)
<i>Gender</i>		
Male	124	42.47
Female	168	57.53
Total	292	100.00

Source: Field study, 2021; N = 292

4.3 Analysis of Research Questions

Three research questions were formulated to guide this study. In this regard, the analysis of the data was done in line with the research questions.

4.3.1 Analysis of Research Question 1

What is the standard of classroom environment in public senior high schools in the Bekwai Municipality?

This research question sought to find out the standard of classroom environment in public senior high schools in the Bekwai Municipality. To answer this research question, the students involved in the study were required to respond to items measured on a four-point Likert scale with 1- strongly disagree, 2- disagree, 3- agree, 4- strongly agree. Means and standard deviations were used to analyse the responses of students. The results of the analysis are presented in Table 2.

The results in Table 2 showed that the standard of classroom environment of public senior high schools in the Bekwai Municipality were quite high. This is because the overall mean (2.63) of the characteristics of classrooms recorded a mean which was greater than the average mean of 2.50 (1+2+3+4÷4). Additionally, the findings reveal that the various classrooms have enough writing desks (M=3.21; SD=0.70), adequate white or chalk boards (M=3.14; SD=0.94), are spacious size and comfortable

(M=3.11; SD=0.74), enough spaces between desks (M=3.00; SD=0.56), and good ventilation (M=2.63; SD=0.85).

Table 2: Standard Classroom Environment

Statement	Mean	Std. Dev.
My Classrooms is spacious and comfortable.	3.11	0.74
There are enough writing desks in my classroom.	3.21	0.70
There are adequate white or chalk boards in my classroom.	3.14	0.94
In my classroom, there are enough spaces between desks.	3.00	0.56
There is good ventilation in my classroom.	2.63	0.85
There are adequate facilities in the ICT and Science laboratories.	2.14	0.72
My classroom has enough displayed wall charts for learning.	2.03	0.72
There are good lightening systems in my classroom.	2.32	0.98
There is a ceiling in my classroom.	2.15	0.58
Overall Mean	2.63	0.75

Source: Field survey (2022), N=292

Congruence with this study's findings is the findings reported by Eric (2005). Eric's findings revealed from the classroom environment he observed supportive and caring classroom and that reduced student's tendency to become involved in substance abuse, violence and other problem behaviour. On the contrary, Duruji, Azuh and Oviasogie (2014) who investigated learning environment and academic performance in secondary schools reported the characteristics of the classroom environment considered in his study to include poor lighting, noise, high levels of carbon dioxide in classrooms, and inconsistent temperatures make teaching and learning difficult.

Similarly, Ngina (2013) reported major factors in classroom hindering pupils' performance to include lack of teaching and learning resources, lack of adequate

physical facilities, very high Teacher Pupil Ratio. Ngina further indicated that the lack of learning and teaching resources negatively influenced the pupils' performance. It was also revealed that learning environment was not conducive for learning which contributed to poor performance. In support, Elianshisariya (2020) reported that in his study that most of the classrooms which were observed had large number of students, overcrowded classes, scarcity of books, apparatus and other teaching and learning materials, against others. Elianshisariya further reported lack of important infrastructures like electricity, clean water and hostels, no provision of food services to the students among the schools whose classrooms were examined.

4.3.2 Analysis of Research Question 2

What is the level of academic performance of senior high schools' students in the Bekwai Municipality?

The second research question also aimed at finding out the level of academic performance of senior secondary schools' students in the Bekwai Municipality. To answer this research question, the students involved in the study were required to respond to items measured on a five-point Likert scale with 1- strongly disagree, 2- disagree, 3- neutral, 4- agree and 5- strongly agree. Means and standard deviations were used to analyse the responses of students. Interpretation of means suggested by Jamil (2012), as cited in Mohd, Yan, Jamil, Aida and Azalin (2013) was adopted for the interpretation of levels of academic performance of senior high schools' students in the Bekwai Municipality. The numerical mean values and their interpretations used are shown in Table 3.

Table 3: Mean Ranges and Interpretations for Students' Academic Performance

Mean Range	Interpretation
0.01-1.00	Very Low
1.01-2.00	Low
2.01-3.00	Moderate
3.01-4.00	High
4.01-5.00	Very High

Source: Jamil (2012) cited in Mohd, Yan, Jamil, Aida and Azalin (2013)

The results in Table 4 present the mean and standard deviation of the items that were used in measuring the level of academic performance of senior high schools' students in the Bekwai Municipality.

Table 4: Academic Performance

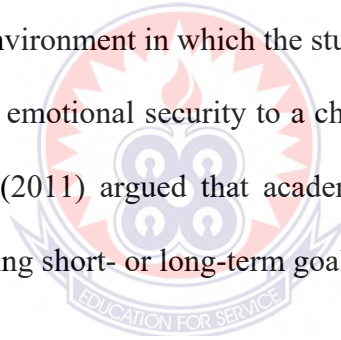
Statement	Mean	Std. Dev.
I made myself ready in all my subjects.	3.21	1.04
I pay attention and listen during every discussion.	3.88	1.09
I want to get good grades in every subject.	3.76	1.12
I actively participate in every discussion.	3.61	1.03
I gain focus when I see technical problems.	3.79	1.15
I enjoy homework and activities because they help me improve my skills in every subject.	2.45	1.23
I exert more effort when I do difficult assignments.	3.33	1.11
Solving problems is a useful hobby for me.	3.73	1.07
Overall Mean	3.47	1.10

Source: Field survey (2022), N=292

The results in Table 4 also showed that generally (overall), the level of academic performance of senior high school students in the Bekwai Municipality was high. This is seen from an overall mean of 3.47 and a standard deviation of 1.10. This implies that generally, form three students in public senior high school in the Bekwai

Municipality are doing well academically. In support, Agba (2011) maintained that academic performance is the most well-known indicator, measuring academic performance is grades, which reflect the student's score for their subjects and overall tenure. He further noted that how well a student meets standards set out by an institution itself or an external examination body either set up by the government or an independent outfit signifies success or poor performance.

Similarly, Steinberg (2005) posits that academic performance encompasses students' ability and performance; it is multi-dimensional; it is intricately associated to human growth and cognitive, emotional and social physical development. Further indicated that the academic performance of any student cannot be separated from the classroom environment, the home environment in which the student lives; a healthy classroom or home environment offers emotional security to a child. However, Bossaert, Doumen, Buyse and Versehueren (2011) argued that academic performance is measured by students' success in meeting short- or long-term goals in education.



4.3.3 Analysis of Research Question 3

What is the relationship between classroom environment and senior secondary school students' academic performance in the Bekwai Municipality?

The main goal of the third research question was to determine the relationship between classroom environment and senior secondary school students' academic performance in the Bekwai Municipality. In achieving the objective of this research question, Pearson product moment correlation was used. In measuring this research question, nine statements and eight statements which measured classroom environment and academic performance of students respectively were presented to students to answer. These statements were measured on a four-point and five-point

Likert scale respectively. Afterwards, composite scores were calculated for each of the classroom environment and academic performance of students before the conduct of the analysis. The research question was tested at 0.05 alpha level and a summary of the analysis is presented in Table 5.

Table 5: Relationship between Classroom Environment and Academic Performance of Students

		Classroom Environment	Academic Performance
Classroom Environment	Pearson Correlation	1	.603*
	Sig. (2-tailed)		.043
	N	292	292
Academic Performance	Pearson Correlation	.603*	1
	Sig. (2-tailed)	.043	
	N	292	292

*. Correlation is significant at the 0.05 level (2-tailed)

The results in Table 5 show that there is a strong positive and significant relationship between classroom environment and academic performance of students. The results mean that an improving classroom environment has positive relationship to an increase in academic performance of students. Overall, the results of the analysis reveals that the nature of classroom environment in the various public senior high schools in the Bekwai Municipality has positive relationship on academic performance of students.

In agreement, Matoy (2021) who investigated the relationship between classroom environment and the academic achievement, reported that there was a significant and positive correlation between the physical environment and the students' academic achievement in Computed Tomography Scan and as the quality of the physical environment increased, the academic achievement of the student also increased.

Similarly, Melaiye, et al. (2021) conducted a study on classroom environment and students' academic performance using ten (10) secondary schools which were selected from rural communities in Jalingo local government in Nigeria. Melaiye, et al. (2021) reported a significant and positive relationship between classroom environment and the students' academic performance indicating that classroom environment is conducive, students perform well in their academic pursuits.

This current study's findings also relate to the findings of Muddasir et al (2015) as their study revealed that students from a school with classroom having adequate facilities, good teachers and favourable environment perform well than those from schools with fewer facilities, unqualified teachers and the less enabling classroom environment. Again, in Ghana, Akoto-Baako (2018) reported a similar finding. Akoto-Baako's (2018) study investigated how the psychological classroom environment related to students' academic performance, and his findings unravelled that psychological classroom environment had a great relationship on the students' academic performance.

However, the findings of this study contradict the findings of Iloba (2009) whose study focused on the relationship between students' perception of classroom environment and their achievement in secondary school geography. It was revealed in Iloba's findings that revealed that classroom environmental factors correlated negatively with students' achievement in senior secondary geography and that location of school whether urban or rural has little or no effect on students' achievement.

Additionally, Wisneski, Ozogul, Bichelmeyer (2016) who investigated the impact of the prerequisite course learning environment on student performance in post-requisite

coursework, also reported that student academic performance in the post-requisite course does not vary or related based on the learning environment of the prerequisite course. In another study by Danial (2004) also reported similar findings. Danial (2004) examined the impact of the classroom environment and peer influence on the students' academic performance where his findings reported that the classroom which also acts as a second home for learners has been found to have a strong relationship with students' academic performance.



CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This is the last chapter of the study. It summarizes the study highlighting the methodologies adopted in collecting and analysing data so as to come out with the main findings in addressing the research questions formulated on the relationship between classroom environment and students' academic performance among senior high school students in the Bekwai Municipality. In line with the main findings, conclusions are made to permit the provision of appropriate recommendations as well as suggestions for further studies.

5.1 Overview of the Study

The research was undertaken to investigate the relationship between classroom environment and students' academic performance among senior high school students in the Bekwai Municipality. Other objectives included to ascertain the standard of classroom environment in public senior secondary schools in the Bekwai Municipality, to determine the level of academic performance of senior secondary schools' students in the Bekwai Municipality, and to establish the relationship between classroom environment and senior secondary school students' academic performance in the Bekwai Municipality.

The following research questions guided the study:

1. What is the standard of classroom environment in public senior secondary schools in the Bekwai Municipality?
2. What is the level of academic performance of public senior high school students in the Bekwai Municipality?

3. What is the relationship between classroom environment and senior high school students' academic performance in the Bekwai Municipality?

The study adopted the descriptive research design using questionnaire as the only instrument to collect the relevant data in addressing the research questions formulated for the study. In selecting the sample for the study, 292 form three students in senior high school in the Bekwai Municipality were used in the study using proportionate sampling technique and convenient sampling technique. Descriptive statistics and Pearson moment product correlation were used to analyse the data. Specifically, the descriptive statistics consisting of percentages and frequencies were used to analyse the demographic characteristics of the students. However, mean and standard deviation were used to analyse research questions 1 and 2 while research questions 3 was analysed using Pearson moment product correlation.

5.2 Summary of the Key Findings

The key findings are outlined in consonance with the objectives of the study as follows:

1. The first objective investigated the standard of classroom environment in public senior high schools in the Bekwai Municipality. The key findings were that the standard of classroom environments of public senior high schools in the Bekwai Municipality were quite high.
2. The second research objective was to determine the level of academic performance of senior high schools' students in the Bekwai Municipality. The key findings revealed high level of academic performance among senior high schools' students in the Bekwai Municipality.

3. The last research objective sought to establish the relationship between classroom environment and senior high school students' academic performance in the Bekwai Municipality. The key findings were that the nature of classroom environment in the various public senior high schools in the Bekwai Municipality has positive relationship on academic performance of students.

5.3 Conclusion

One conclusion from the findings is that, there could be other characteristics of classroom environment that were not considered although the standard of classroom environments in public senior high schools in the Bekwai Municipality were quite high. With this in mind, the school authorises can pay attention to others characteristics of classroom environment which might affect students' academic performance. Another conclusion is that form three students in public senior high schools in the Bekwai Municipality are performing well academically since the study found high levels of students' academic performance. This might have been as a result of students exhibiting proper study habits and other classroom-related factors that can sustain or increase their academic performance. Last, but not least, it could be concluded that even though the nature of classroom environment in the various public senior high schools in the Bekwai Municipality has positive relationship on academic performance of students, there could be other classroom-related factors that can have relationship with students' academic performance.

5.4 Recommendations

In line with the above research findings and the conclusions, the following recommendations are made:

1. School authorities and GES in the Bekwai Municipality are encouraged to continue to improve the classroom environment of the various public senior high school in order to increase students' academic performance. This can be achieved by providing the necessary classroom materials that can stimulate a better classroom environment.
2. Students in Senior High Schools in the Bekwai Municipality should be encouraged to sustain their academic performance, although the study found high level of students' academic performance of students. This can be achieved by school authorities encouraging students to strengthen their study habits as well as other factors that can increase or sustain their academic performance.
3. School authorities and GES in the Bekwai Municipality are encouraged to continue to put classrooms into better shapes in order to create conducive environment that stimulates effective learning since classroom environment has positive relationship with students' academic performance. This can be attained by seeking for intervention of other stakeholders of education to help provide resources for the various classrooms in public senior high schools in the Bekwai Municipality.

5.5 Suggestions for Further Study

Future researchers can consider conducting a similar study using students in other Municipalities, since the study focused on students in the Bekwai Municipality. In this study, a quantitative approach was used. Therefore, future researchers can consider using mixed methods approach in order to obtain more comprehensive view and deeper understanding of the variables of the study.



REFERENCES

- Abu-Sayeed, M. (2015). Influence of school environment in relation to the academic achievement of secondary school students of Malda District India. *Journal of Research in Arts & Education*, 4(7), 6-10.
- Adamu, N. (2015). *Impact of learning environment on the performance of students in social studies in junior secondary schools in Taraba State, Nigeria*. Master Degree Thesis, School of Postgraduate Studies, Ahmadu Bello University, Zaria, Nigeria.
- Adi, B. (2019). *Descriptive research: Definition, characteristics, methods, examples and advantages*. Global VP - Sales and Marketing at QuestionPro. Retrieved from <https://www.questionpro.com/blog/descriptive-research/>
- Agba, T. I. (2011). Management of non-profit organizations. *Journal of Management Science*, 10(4), 117-134.
- Akoto-Baako, H. (2018). *Perceived influence of large class size and psychological classroom environment on students' academic performance*. Unpublished master's thesis, University of Cape Coast.
- Aldridge, J. M. (2000). A cross-cultural study of classroom learning in Australia and Taiwan. *Learning Environment Research*, 5, 101-134.
- Amedahe, F. K. (2004). *Notes on educational research*. (Unpublished document), University of Cape Coast, Ghana.
- Anbalagan, S. (2017). Impact of school environment on academic achievement of secondary school students in Markurdi District. *International Journal of Applied Research*, 3(5), 732-737.
- Apau, S. K. (2016). *Technological pedagogical content knowledge preparedness of student-teachers of the Department of Arts and Social Sciences Education (DASSE) of University of Cape Coast*. UCC library. Retrieved from: <https://erl.ucc.edu.gh/jspui/bitstream/123456789/3228/1/STEPHEN%20KWA%20KYE%20APAU.pdf>
- Ayeni, A. J. (2012). Improving learning infrastructure and environment for sustainable quality assurance practice in secondary schools in Ondo State, South-West, Nigeria. *International Journal of Research Studies in Education*, 1(1), 61-68.
- Barro, R. (2006). *Education and development: Quality counts*. Retrieved from: <http://www.worldbank.org/education>.

- Bossaert, G., Dournen, S., Buyse, E., & Verscheren, K. (2011). Predicting students' academic achievement after the transition to first grade: A two-year longitudinal study. *Journal of Applied Developmental Psychology, 32*, 47-57.
- Bierman, K. L. (2011). The promise and potential of studying the "invisible hand" of teacher influence on peer relations and students' outcomes: A commentary. *Journal of Applied Developmental Psychology, 32*(5), 297.
- Chambers, S., Henson, R., & Sienty, S. (2001). *Personality types and teaching efficacy as predictors of classroom control orientation in beginning teachers*. Paper presented at the Annual Meeting of the Southwest Educational Research Association. New Orleans, LA.
- Chen, Q., Zeng, F. & Yang, Z. (2010). Study on the effects of multimedia monitoring system in medical teacher's microteaching training. *Coput Inf Sci, 3*, 241-243
- Cohen, L., Manion, L. & Morrison, K. (2013). *Research methods in education*. London: Routledge.
- Collie P. & Rine, J. (2009). *Survey design: getting the results you need office of process simplification*. Retrieved from <https://slideplayer.com/slide/3877199/>
- Combs, M. G. (2002). Meeting the leadership challenge of a diverse and pluralistic workplace: Implications of self-efficacy for diversity training. *Journal of Leadership Studies, 8* (4), 1-16.
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative and mixed method approaches* (4th ed.). Sage Publication.
- Danial, M. (2004). *Doing quantitative research in education*. London. Sage Publication.
- DeFranzo, S. (2012). *Advantages and disadvantages of surveys*. Retrieved from <https://www.snapsurveys.com/blog/advantages-disadvantages-surveys/>
- De Grauwe, A. (2001). *Supervision in four African countries: Challenges and reforms*. Paris: IIEP/UNESCO.
- Duru, M. M. & Oviasogie, A. F. (2014). *Learning environment and academic performance of secondary school students in external examinations: A study of selected schools in Ota*. Proceedings of Edulearn 14 Conference, 7th- 9th July 2014, Barcelona Spain.
- Duruji, M. M., Azuh, D. & Oviasogie, F. (2014). *Learning environment and academic performance of secondary school students in external examinations: A study of*

selected schools in Ota, Nigeria. Proceedings of EDULEARN 14 Conferences, Barcelona, Spain. 7th-9th July.

Duruji, M. M., Azuh, D., & Oviasogie, F. (2014). *Learning environment and academic performance of secondary school students in external examinations: a study of selected schools in Ota, Nigeria.* Proceedings of EDULEARN 14 Conferences, Barcelona, Spain. 2014. 7th-9th July, PP. 5042-5053.

Edeh, U. U. (2015). *Human resource development in challenges economic realities.* Retrieved from <http://www.skillsforcare.org.uk/workforcestrategy/recruitment>.

Eimuhi, J. O. & Ogedegbe, B. G. (2016). The effect of environmental factors in teaching and learning in primary and secondary schools in Edo State of Nigeria. *Journal of Emerging Trends in Educational Research and Policy Studies (JETERAPS)*, 7(4), 310-317.

Elianshisariya, D. K. (2020). *The role of learning environment on student academic performance in public secondary schools: a case of Shinyanga municipal council in Shinyanga region.* Unpublished master's thesis. The Open University of Tanzania, Tanzania.

Elujekwute, E. C. (2019). *Educational management; concept and theories.* Makurdi. Density Ventures.

Eric, S. (2005). *The role of supportive school environment in promoting success: An article from development studies 66 Centre (DSC).* Developing Safe and Healthy Kids, Published in Getting Result.

Ezike, B. U. (2018). Classroom environment and academic interest as correlates of achievement in senior secondary school chemistry In Ibadan South West Local Government Area, Oyo State, Nigeria. *Global Journal of Educational Research*, 17, 61-71.

Fisher, E. S. (2008). *The effect of physical classroom environment on literacy outcomes: How 3rd class teacher uses the physical classroom to implement a balanced literacy curriculum.* A master's thesis presented to the Faculty of the Graduate School, University of Missouri. Missouri.

Fogarty, R. (1999). Architects of the intellect. *Educational Leadership*, 57(3), 76-78.

Foluso, A. M., Omotayo, K. A. & Olugbugi, P. O. (2017). Environmental variables as determinants of students' achievement in senior secondary school biology in South West Nigeria. *International Interdisciplinary Journal of Scientific Research*, 3(1), 75-80.

Fraser, B. (2002). Learning environments research: Yesterday, today, and tomorrow. In S. C. Goh & M. S. Khine (Eds.), *Studies in educational learning*

environments: An international perspective (pp. 1-26). Singapore: World Scientific.

Gilavand, A. (2016). Investigating the Impact of Environmental Factors on Learning and Academic Achievement of Elementary Students: Review. *International Journal of Medical Research & Health Sciences*, 4(2), 360-369.

Glasow, P. (2005). *Fundamentals of Survey Research Methodology*. MITRE, C3 Center.

Houston, H. (2007). *The creative classroom: Teaching language outside the box*. Auburn: WA: Lynax.

Huitt, W. G. (2000). A constructivist approach to learning. CA: Valdosta State University. *Human Social Sci.*, 14(3), 15 - 21.

Iloba, O. J. (2009). *Relationship between students' perception of classroom psychosocial environment and achievement in geography*. Unpublished master's thesis. University of Nigeria, Nsukka.

Jones, M. 2009. *The qualitative eye*. California: Thousand Oaks, Sage.

Kang, M. (2011). Parenting style and adolescent's school performance in mainland China. Online submission. *US-China Education Review*, 2(1),133-138.

Kankam, G. & Weiler J. (2010). *A guide to action research for colleges of education and universities*. Published by Read wide Publishers; Accra - Ghana.

Kekare, S. H. (2015). Classroom physical environment and academic achievement of students. *The International Journal of Indian Psychology*, 2(3), 116-120.

Koroye, T. (2016). The influence of school physical environment on secondary school, students' academic performance in Bayelsa State. *African Journal of Educational Research*, 2(4), 1-5.

Lasley, T. J. (2006). A systematic approach to enhancing teacher quality: The Ohio model. *Journal of Teacher Education*, 57(1), 13-21

Lippman, P. C. (2010). *Can the physical environment have an impact on the learning environment?* CELE Exchange. ISSN 2072-7925 OECD.

Marzano, R. J. (2003). *What works in schools translating research into action?* Alexandria, VA: Association for Supervision and Curriculum Development.

Marzano, R. J. & Marzano, J. S. (2003). Building classroom relationships. *Educational Leadership*, 61(1), 6-13.

- Marzano, R. J. & Pickering, D. J. (2007). Errors and allegations about research on homework. *Phi Delta Kappan*, 88(7), 507-513.
- Matoy, J. T. (2021). Classroom environment and academic achievement. *International Journal of Novel Research in Humanity and Social Sciences*, 8(3), 21-29.
- Melaiye, O, R. Iorshaer, M. J., Cephas, Z. K., Kuru, M. J., Bulba, I. B., Chuboh, J. V., Galadima, A. I., Sylvanus, I. (2021). Impact of learning environment on the students' academic performance in rural secondary schools in Jalingo Local Government Area, Taraba State, Nigeria. *African Scholars Journal of Contemporary Education Research (JCER-8)*, 21(8), 96-120.
- Miles, M. B. & Huberman, A. M. (1994). *An expanded sourcebook: Qualitative data analysis*. California: Sage Publications Inc.
- Miller, A. & Cunningham, K. (2011). *Classroom environment*. Retrieved from: <http://www.education.com/reference/article/classroom-environment>.
- Moos, R. (2009). *Evaluating educational environments: procedures, measures, findings and policy implications*. San Francisco: Jossey-Bass.
- Mudassir, I. U. & Norsuhaily, A. (2015). *The influence of school environment on academic performance of secondary school students in Kuala Terengganu, Malaysia*. Proceedings of ICIC2015-International Conference on Empowering Islamic Civilization in the 21st Century 6-7 September. Retrieved from: <https://pdfs.semanticscholar.org/924e/7c8b4c9744c4a66f26366a9c341ece63b038.pdf>.
- Muola, J. (2010). A Study of the relationship between academic achievement motivation and home environment among standard eight pupils. *Journal of Educational Research and Reviews*, 5(5), 213-217
- Ngina, P. K. (2013). *Influence of learning environment on pupil academic performance in Kenya certificate of primary education in Kaiti division, Makueni county*. Unpublished master's thesis, University of Nairobi, Kenya
- Odeh, R. C., Oguiche, O. A. & Ivagher, E. D. (2015). Influence of school environment on academic achievement of students in secondary schools in zone "A" Senatorial District of Benue State, Nigeria. *International Journal of Recent Scientific Research*, 6(7), 4914-4922.
- Ogbemudia, M. I. & Aiasa, M. V. (2013). Influence of home environment on the academic performance of primary five pupils in English Language in Orhionmwon Local Government Area of Edo State. *Merit Res. F of Ed and Rev*, 1(5), 120-125.

- Okeke, E. A. C., Nzewi, U. M., & Njoku, Z. (2012). *Tracking school age children's education status in UNICEF A-Field states*. Lagos: UNICEF
- Oluwatayo, J. A., & Oyeboade, O. P. (2016). Classroom environment and performance of secondary school students in biology. *International Journal of Education and Evaluation*, 2(5), 17-25.
- Onwuakpa, F. W. & Akpan, B. B. (2000). A study of secondary school students' classroom environment in relation to their mathematics achievement. *Journal of Science Teachers Association of Nigeria*, 35(1&2), 55-62.
- Osei-Mensah, F. (2020). *Factors that influence the performance in general knowledge in art of senior high school students in Abura Asebu Kwamankese District in the Central Region*. Master's thesis submitted to Faculty of Art, College of Art and Social Sciences. University of Cape Coast.
- Patrick, H., Ryan, A., & Kaplan, A. (2007). Early adolescents' perceptions of the classroom social environment, motivational beliefs and engagement. *Journal of Educational Psychology*, 99, 83-98.
- Piaget, J. (2003). Cognitive development in children: Piaget development and learning. *Journal of Research in Science Teaching*, 40(1), 8-18.
- Rubin, R. B., Rubin, A. M., & Piele, L. J. (2005). *Communication research: Strategies and sources* (6th ed). Belmont, CA: Wadsworth.
- Saputri, A. B. (2019). *The Influence of school environment on students' interest in English subject: A Case at SMP IT Assalam boarding school Pekalongan in the Academic Year of 2018/2019*. Unpublished master's thesis. Semarang State University.
- Shamaki, T. A. (2015). Influence of learning environment on students' academic achievement in mathematics: A case study of some selected secondary schools in Yobe State-Nigeria. *Journal of Education and Practice*, 6(34), 40-44.
- Steinberg, L. (2005). *Psychology of adolescents*. New York: McGraw.
- Suleman, Q., Aslam, H. D., Javed, T. & Hussain, I. (2014). Effect of classroom physical environment on the academic achievement scores of secondary school studies In Kohat Division, Pakistan. *International Journal of Learning & Development*, 4(1), 2164-4063
- Tariq, J. (2017). *Effect of classroom environment, motivation and teacher feedback on academic achievement of secondary school students in Pakistan Mohi-Ud-Din*. Unpublished master's thesis, Islamic university, Nerian sharif AJ&K.
- Vygotsky, L. (1978). *Mind in Society*. London: Harvard University Press.

- Weiss, A. (2007). Creating the ubiquitous classroom: Integrating physical and virtual learning spaces. *The International Journal of Learning*, 14(3), 1-4.
- William, D. (2007). *Content then processes: Teacher learning communities in the service of formative assessment, the power of assessment to transform teaching and learning*. Bloomington: IN: Solution Tree.
- Wisneski, E. J., Ozogul, G. & Bichelmeyer, A. B. (2016). Investigating the impact of learning environments on undergraduate students' academic performance in a prerequisite and post-requisite course sequence. *Internet and Higher Education*, 32(2), 1-10.



APPENDICES

APPENDIX A

Questionnaire for Students

UNIVERSITY OF EDUCATION, WINNEBA

FACULTY OF EDUCATIONAL STUDIES

DEPARTMENT OF EDUCATIONAL FOUNDATIONS

TOPIC: RELATIONSHIP BETWEEN CLASSROOM ENVIRONMENT AND

STUDENTS' ACADEMIC PERFORMANCE AMONG PUBLIC SENIOR

HIGH SCHOOLS IN THE BEKWAI MUNICIPALITY

Dear student,

This questionnaire has been designed to solicit information for a research work being undertaken on the above topic. Please you have been selected as the respondents. Your decision to partake in this case study is completely voluntary. Your opinions and co-operation are very important to the success of this study. The information you give out will be kept strictly confidential. Please kindly respond to the questionnaire by filling in as appropriate. The information given through this questionnaire is purely for academic purposes. Should you have any questions concerning the administration of the survey, please feel free to contact the researcher on this phone number (0242017916). I hereby look forward to your participation in this study. Please do not indicate your name on the questionnaire. Thanks for your support.

I consent to participate in this survey: Yes No

SECTION A: BACKGROUND CHARACTERISTICS OF STUDENTS

Please tick (√) or provide responses to the questions which follow:

1. Please indicate your gender:

Male: [] Female: []

SECTION B: STANDARD OF CLASSROOM ENVIRONMENT

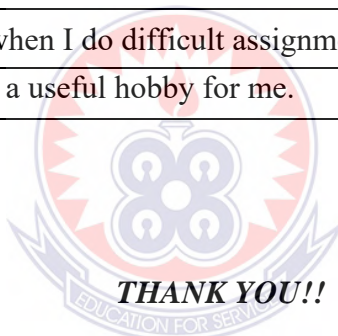
Please indicate the standard of classroom environment in your school by indicating your level of agreement to the following statements that focus on the standard of classroom environment in your school. **Rating: 1- Strongly Disagree, 2- Disagree, 3- Agree, 4- Strongly Agree.** You are required to **tick (√)** under a number in the box that corresponds to your opinion Please do not omit a statement.

<i>No.</i>	<i>Statements</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
1	My Classrooms is spacious and comfortable.				
2	There are enough writing desks in my classroom.				
3	There are adequate white or chalk boards in my classroom.				
4	In my classroom, there are enough spaces between desks.				
5	There is good ventilation in my classroom.				
6	There are adequate facilities in the ICT and Science laboratories.				
7	My classroom has enough displayed wall charts for learning.				
8	My school has good place of convenience which makes the learning environment comfortable.				
9	There are good lightening systems in my classroom.				
10	There is a ceiling in my classroom.				

SECTION C: ACADEMIC PERFORMANCE

Please indicate your level of agreement to the following statements that focus on the level of your academic performance. **Rating: 1-strongly disagree, 2-disagree, 3-neutral, 4-agree and 5-strongly agree.** You are required to **tick (√)** under a number in the box that corresponds to your opinion. Please do not omit a statement.

	Statement	1	2	3	4	5
1	I made myself ready in all my subjects.					
2	I pay attention and listen during every discussion.					
3	I want to get good grades in every subject.					
4	I actively participate in every discussion.					
5	I gain focus when I see technical problems.					
6	I enjoy homework and activities because they help me improve my skills in every subject.					
7	I exert more effort when I do difficult assignments.					
8	Solving problems is a useful hobby for me.					



APPENDIX B

LETTER OF INTRODUCTION



UNIVERSITY OF EDUCATION, WINNEBA

FACULTY OF EDUCATIONAL STUDIES

DEPARTMENT OF EDUCATIONAL FOUNDATIONS

P. O. Box 25, Winneba, Ghana

edufoundations@uew.edu.gh

030 298 0885

11th November, 2021.

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

LETTER OF INTRODUCTION

I write to introduce to you, PATRICK DANIELS JAHWAGAH, the bearer of this letter who is a student in the Department of Educational Foundations of the University of Education, Winneba. He is reading POST GRADUATE DIPLOMA IN EDUCATION with index number 200050457.

He is conducting a research on the topic: RELATIONSHIP BETWEEN CLASSROOM ENVIRONMENT AND ACADEMIC PERFORMANCE AMONG PUBLIC SENIOR HIGH SCHOOL STUDENTS IN THE BEKWAI MUNICIPALITY. This is in partial fulfillment of the requirements for the award of the above mentioned degree.

He is required to administer questionnaire to help him gather data for the said research and he has chosen to do so in your outfit.

I will be grateful if he is given permission to carry out this exercise.

Thank you.

Yours faithfully,

A handwritten signature in blue ink, appearing to read 'Richardson Addai-Mununkum'.

DR. RICHARDSON ADDAI-MUNUNKUM
AG. HEAD OF DEPARTMENT