

UNIVERSITY OF EDUCATION, WINNEBA

CHALLENGES IN THE USAGE OF INSTRUCTIONAL MATERIALS IN LESSON
DELIVERY AT JUNIOR HIGH SCHOOLS IN THE KUMBUNGU DISTRICT OF
THE NORTHERN REGION



**A Dissertation to the Department of Educational Leadership, Faculty of Education
and Communication Sciences, submitted to the School of Graduate Studies,
University of Education, Winneba, in partial fulfilment of the requirements for
award of the Master of Arts (Educational Leadership) degree**

DECEMBER, 2020

DECLARATION

STUDENT'S DECLARATION

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

SIGNATURE:

DATE:

SUPERVISOR'S DECLARATION

I hereby declare that the preparation and presentation of the work was supervised in accordance with guidelines and supervision of dissertation as laid down by the University of Education, Winneba

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DATE:



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Finally, I would like to thank my course mates; Alhasan Mohammed and Abukari Alhasan, I say Allah bless you for your support and for the good company we shared.

DEDICATION

To my children, Husna Mandeiya Zibrim, Basira Maltiti Zibrim and Abdul Muhsin Kasi Zibrim.

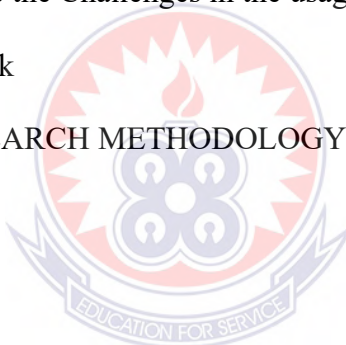


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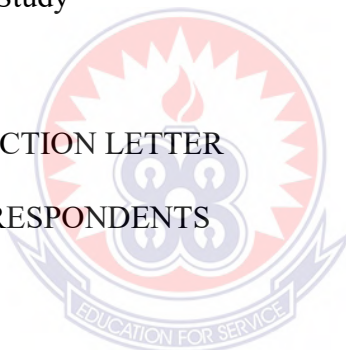
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ABSTRACT

The purpose of the study was to investigate challenges in the usage of instructional materials in lesson delivery at Junior High Schools in the Kumbungu District of the Northern Region of Ghana. The objectives of the study were to find out the kind of instructional materials available, establish challenges in the usage of instructional materials in lesson delivery and to determine strategies that could be adopted to address the challenges in the usage of instructional material in lesson delivery. Descriptive survey design using the quantitative approach was adopted for the study. The target population for the study was teachers in public Junior High Schools. The accessible population was 107 teachers in the seven public Junior High Schools in the Kumbungu Circuit. Simple random sampling was used to select 84 respondents for the study. Questionnaire was used for the study. The data were processed using the Statistical Package for Social Sciences (SPSS) software package version 16.0. The data collected were analyzed using descriptive statistics. The study found that text books, charts, library books, pictures, computers and posters were available. Also, lack of finance to acquire or improvise needed instructional materials and insufficient time allocation to accommodate effective instructional materials utilization were some of the challenges while provision of adequate funds to acquire or improvise needed instructional materials and provision of back-up generator to augment electricity power to be used for instructional materials that uses electrical power were some strategies to address the challenges. It is recommended that the District Directorate of Education should ensure that schools are adequately resourced financially to enable schools to improvise instructional materials that are not available or damaged, to improve lesson delivery.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

It is recognized the world over that education is a very important tool in national development. This is because it is through education that the nation's human resources which ultimately determine the character and pace of its social and economic development is developed (Ato, 2010). In the words of Morgan (2008), education is viewed as an instrument for promoting and controlling change, for transmitting national values, economic skills and as a medium for incorporating into rapidly changing national society, typified by pluralism in relation to beliefs and roles and the individual's attachment to one or many of these.

According to Gbordzoe (2005), education should be used to transform human resource. Education is also concerned with, the united concern of a people for the right upbringing of its children and improvement of its national life.

The findings from studies by the World Bank (2008) and other international organizations on the quality of learning achieved in the developing countries points to the great importance of the following school inputs: teachers (class size, teacher training and morale); instructional materials (textbooks and other reading materials; writing implements (radio, computer and other instructional media); school buildings and facilities; nutrition and health of children; language of instruction; and examinations (Eshiwani, 2001). Majority of countries in Africa experience shortage of qualified teachers at all levels. Classroom instruction is often given by unqualified or untrained teachers. Instructional materials are considered important in teaching and learning in all

levels of education because textbooks and other resource materials are basic tools. Absence or inadequacy makes teachers handle subjects in an abstract manner, portraying it as dry and non-exciting (Eshiwani, 2001). For example, textbooks, charts, maps, audio visual and electronic instructional materials such as radio, tape recorder, television and video tape recorder contribute much in making teaching and learning more interesting (Atkinson, 2000).

The importance of instructional materials is also evident in the performance of students (Adeogun, 2001). Adeogun further indicated that schools, whose teachers use more instructional resources, perform better than schools, whose teachers do not use instructional materials. Notwithstanding the fact that some schools may have the best facilities; yet they fail to produce strong students due to the negligence of teachers towards the use of instructional materials in the teaching and learning process. In this situation, the provision of good teaching resources is likely to improve the quality of learning. This is likely to be the case because provision of such instructional materials will help promote systematic learning activities in the classroom and supplement teachers' limited knowledge (Eshiwani, 2001).

Instructional materials have been observed as a powerful strategy to bring about effective teaching and learning. The importance of quality and adequate instructional materials in teaching and learning can occur through their effective utilization during classroom teaching. Instructional materials here include all the tools that the teachers can use to make the learning more interesting and memorable.

In the words of Farombi (1998), instructional materials include books, audio-visual, software and hardware of educational technology. Farombi further opines that the

availability, adequacy and relevance of instructional materials in classrooms can influence quality teaching, which can have positive effect on students' learning and academic performance. Efficiency and high productivity in teaching and learning transaction in the view of the researcher start from the access to quality and adequate instructional materials, and these should be prepared well before the class interaction.

According to Morgan (2008), instructional resources are teachers' strategic factor in organizing and providing education. This is so because they help to elaborate a concept that the teacher could not, without an instructional material. The role of instructional materials or teaching aids to enhance teaching for desired social and behavioral changes cannot be over-emphasized since it is a pre-requisite in affecting behaviour of learners of every field. According to Iwu, Ijioma, Onoja and Nzewuihe (2011), effective instruction cannot be fully accomplished without the use of instructional materials. The reason for this cannot be far-fetched; they include advances in technology which brought in instructional materials especially the projected and electronic materials as the most radical tools of globalization and social development. This has affected the classroom teaching-learning process positively.

According to Iwu, et al. (2011), technological breakthroughs on teaching materials or teaching aids include projected and non-projected, auditory, audio-visual and visual electronic materials which are important landmarks in knowledge transfer. Teaching aids provide the teacher with interesting and compelling platforms for conveying information since they motivate learners to learn more and more. Also it provides opportunities for private study and at the same time stimulate learners' interest

and curiosity. It goes further in helping the teacher to overcome physical difficulties that could have hindered his effective presentation of a given topic (Iwu et al., 2011).

According to Makori and Onderi (2013), there is significant consensus across school effectiveness literature regarding the importance of resources in the teaching and learning process. It is the positive combined effect of these factors of resources that impact on students' or pupils' teaching and learning and/or achievement. It can therefore be argued that lack of one or several of these factors undermines the impact of resources on students' achievement.

Steele (2007) observes that teachers may be inefficient in the use of certain resources and therefore weakening their impact on the teaching and learning process. Subsequently, if the resource's impact is weak because it is inappropriately used by a teacher then it follows that its relationship to or impact on students' achievement may be negative or poor. There is also the possibility that the teachers using a particular resource are not well trained or competent enough and therefore the impact of that resource in the teaching and learning process may be poor or rather weak.

Makori and Onderi (2013) contends that merely equipping schools with such facilities is not enough to raise student achievement, rather what matters most is whether these facilities are utilized properly. In that connection many studies (Steele, 2007; Iwu et al., 2011; Morgan, 2008) have reported wide ranging verdicts on teaching and learning resources such as no significant effect, little association, inconsistent, negative or mixed results because they have failed to take care of the aforementioned factors in their investigations. Policy-makers would want to make informed decisions in terms of spending wisely on resources that would result in higher students/pupils performance or

returns. Mensah (2018) conducted a study on the use of instructional materials in the Atwima Nwabiagya District of the Ashanti Region of Ghana and found that there were a lot of challenges in teachers' usage of instructional materials which has different culture and climate as far as junior high schools in the Northern Region are concerned. Regrettably this has been a recurring concern in the educational research literature for some time now (Marks, 2010). There is therefore the need to investigate the challenges in the usage of instructional materials on lesson delivery at Junior High Schools in the Kumbungu District.

1.2 Statement of the Problem

Instructional materials are very important in lesson delivery in the educational sector to enhance teaching and learning. Bolick (2003) maintained that teaching aids are integral components of teaching-learning situations and not just a supplement but a complement to the teaching-learning process. Thus, if there must be an effective teaching-learning activity, the utilization of instructional materials is very necessary.

According to Ema and Ajayi (2004), teaching equipment and materials have changed over the years not only to facilitate teaching-learning situation but also to address the instructional needs of individuals and groups. Teaching aids eliminate the abstract nature of certain subject matters by concretizing the facts in the lesson content. However, it is observed that, in the area of the study, standard of learning is below expectation due to perceived challenges in the use of instructional material in lesson delivery. Libraries as teaching and learning resource in general contribute to other areas such as: lifelong learning, literacy enhancement, informed citizenship, recreation,

creative imagination, individual research, critical thinking and ultimately empowerment in an increasingly complex world (Krolak, 2005). Mji and Mkagato (2006) also add that library usage contributes to the improvement of the learners' higher order of learning skills such as analysis, problem solving and evaluation. Most of the studies that look into the state of instructional resources in schools rarely attribute poor performance with lack of, or inadequacy of these materials. Instructional materials are important in teaching and learning and are inadequate in many schools (Kerr, 2003). Although studies in Ghana (Sarfo & Adentwi, 2011; Mensah, 2018; Morgan, 2008; Etsey, 2005) have lamented on poor performance, they did not link this situation with inadequate quality instructional resources. It is clear that there is a strong link between adequate and quality instructional materials and quality teaching and learning (Blair, 1998).

Unfortunately, in Sub-Saharan Africa including Ghana, school libraries are either not available or in poor condition or both (Etsey, 2005). However, availability of libraries is one thing and utilising them effectively is another; for instance, Seniwoliba (2013) reports that in Ghana libraries are not fully utilised by either teachers or students.

Despite the many benefits of the use of instructional material in the lesson delivery, not much study had been conducted on the challenges in the usage of instructional materials. Available literature focuses more on the impact of using instructional materials on teaching and learning and less on its associate challenges thereby creating a gap on its availability and. Also, existing studies on instructional materials have focused on their usage in the teaching and learning processes creating a gap on its availability and challenges. The study therefore seeks to investigate challenges

in the usage of instructional materials in lesson delivery at Junior High Schools in the Kumbungu District of the Northern Region of Ghana.

1.3 Purpose of the Study

The purpose of the study was to investigate challenges in the usage of instructional materials in lesson delivery at Junior High Schools in the Kumbungu District of the Northern Region of Ghana.

1.4 Objectives of the Study

Specifically, the study sought to: determine

1. find out the kind of instructional materials available at Junior High Schools in the Kumbungu District.
2. establish challenges in the usage of instructional materials in lesson delivery at Junior High Schools in the Kumbungu District.
3. determine strategies that could be adopted to address the challenges in the usage of instructional material in lesson delivery at Junior High Schools in the Kumbungu District.

1.5 Research Questions

1. What kind of instructional materials are available at Junior High Schools in the Kumbungu District?

2. What challenges are associated with the usage of instructional materials in lesson delivery at Junior High Schools in the Kumbungu District?
3. What strategies could be adopted to address the challenges associated with the usage of instructional material in lesson delivery at Junior High Schools in the Kumbungu District?

1.6 Significance of the Study

The study would be significant in the following perspective:

The outcome of the study will help the Ghana Education Service and the District Directorate of Education to reflect and make evaluation on the requirements of other instructional materials apart from the ones used in the classrooms.

The findings of the study will help teachers, heads of junior high schools and the Ghana Education Service to always make the needed instructional materials adequately available for effective lesson delivery.

The findings of the study will inform head teachers and educational authorities on the challenges associated with the usage of instructional materials for redress to facilitate classroom instruction.

The outcome of the study will add to the existing knowledge on the usage of instructional materials in the classroom.

The outcome of the study would also serve as a blueprint for future researchers who would conduct further studies on the challenges on the use of instructional material in lesson delivery.

1.7 Delimitations of the Study

The study was focused on challenges in the usage of instructional materials in lesson delivery at junior high schools in the Kumbungu Circuit even though there were other junior high schools in the District. The study was further delimited to junior high schools in Kumbungu Circuit of the Kumbungu District as a result of financial constraints and limited resources. The respondents were also delimited to only head teachers and teachers in public junior high schools in the Kumbungu Circuit. The results may therefore be generalized with caution.

1.8 Limitations of the Study

The study was limited to challenges in the usage of instructional materials in lesson delivery at junior high schools in the Kumbungu District. The researcher used questionnaire only to gather data for the study. There was scarcity of literature in the Ghanaian context as most of the literature available concentrated on other geographical locations.

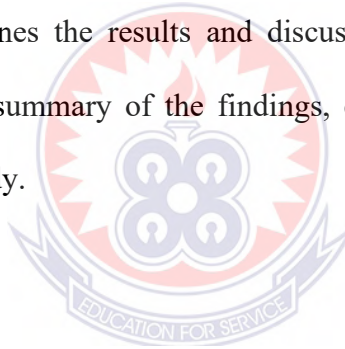
These limitations, nonetheless, the researcher was able to gather the needed information for the study. Some of the respondents delayed in filling the research questionnaires and the researcher had to give them constant reminders before they were completed. Despite these limitations, the researcher was able to collect the necessary data for the study.

1.9 Organization of the Study

The study organized into five chapters. Chapter One deals with the introduction which consists of the background to the study, statement of the problem, purpose of the study, research questions, significance of the study, delimitation of the study, limitation of the study and organization of the study.

Chapter Two presents the literature related to the topic under study. Chapter Three presents the research methodology which includes the research design, population, sample and sampling procedures, data collection instrument, reliability and validity of the instrument, data collection procedure, data analysis plan and ethical consideration.

Chapter Four outlines the results and discussion of the findings of the study. Chapter Five, covers the summary of the findings, conclusions, recommendations and suggestions for further study.



CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

The chapter presents a review of some related studies conducted in the past on the challenges in the usage of instructional materials. The related literature is reviewed under the following sub-heading: Concept of instructional materials, instructional planning, teaching and learning resources, the concept of instructional materials, kinds and categories of teaching aids and the significance of instructional materials, Challenges in Accessing Instructional Materials, Strategies to Minimize the Challenges in using Instructional Materials among others.

2.1 The Concept of Instructional Materials

Instructional Materials are materials of visual, audio and audio - visual category that helps to make concepts abstracts and ideas concrete in the teaching/learning process. They are also materials which the teacher uses in supplementing his teachings (Olawale, 2013). Instructional Materials include materials used to facilitate learning for better results. Likewise, it is the use of the chalkboard, charts, models, overhead projectors, films, television and computers in teaching process (Olawale, 2013). Hence, it is not just the use of tools of technology alone but a systematic, integrated organization of machines hard wares and soft wares and man, teachers etc. for the solution of problems in education.

According to Olawale (2013), the instructional materials at a distal level may be only represented by the availability and presence of textbooks in classrooms; whereas, at

the proximal level, attainment of the grade level and skills required by the materials may be more critical for the teacher and student. For parents, it may be that having "portable" instructional materials, that are visible, durable, and easy to carry may be a significant determinant of the utilization of materials.

The concepts of teaching aids have gone beyond simple aids, instructional technology, and media to communication and educational technology. Instructional aids include those objects that are commercially acquired or improvised by the teacher to make conceptual abstraction more concrete and practical to the learner hence the relevant materials utilized by the teacher during an instructional process for the purpose of making the contents of the instructions more practical and less vague (Iwu, et al., 2011). In order to ensure an effective teaching learning process, it is important for the teacher to be thoroughly acquainted with the teaching resources and services available to him/her.

The components of instructional materials available to teachers and students are in large numbers and also vary according to the functions of each of them. Pictures (motion and still) graphics, maps, radio - recording and play back and the equipment used to get some of these utilized can be regarded as the components of Audio Visual Aids, or Instructional Aids. Examples of instructional materials are charts, maps, diagrams, comics, models, globes, slides, film strips, television, radio cassettes, video, recorders, cinema, public address system, laboratories and museums, flash Cards, flannel boards, card boards, Calendar, Computers, etc. (Olawale, 2013).

Orakwe (2000) also posited that instructional media are gradually finding their ways into the classroom where modern and versatile teachers are exploiting new ways of transferring learning to the younger generation through the use of prints, visuals and

audios or the various combinations of these trios which make up all we have in instructional media. Thus instructional media are the information dissemination devices used in the classroom for easy transfer of learning. Ema and Ajayi (2004) opined that instructional materials creates change and progress only when the teacher is knowledgeable and knows how to make use of it thus portraying the professional attributes of the teacher and the general knowledge or his creativity in selecting, developing and using instructional materials effectively.

Effective communication is the outcome of careful selection of appropriate medium or combination of media available by an effective teacher. Hence an instrument for accelerating the pace of all human transformation, to shake – off inertia in people, achieve mobilization and direct their productive forces in improving their living condition. This shows the impact of the teacher in influencing the future development and growth of a learner. The success of using teaching aids to meet the teaching objectives demands effective use and communication skills of the teacher to satisfy instructional delivery (Iwu, et al., 2011).

Eshiwani (2001) postulates that lending institutions in the education sector in Africa that is, the World Bank, the African Development Bank, etc. seem to be convinced that the provision of instructional materials, especially textbooks, is perhaps the most cost effective way of increasing the quality of education in Africa These institutions are concerned with the scarcity of learning materials in the classrooms in Africa. For example, in a recent major policy paper, the African Development Bank observed that the supply of appropriate teaching materials is particularly inadequate in large part of Africa. While this is to some extent a question of finance, the issue of producing and distributing

adequate teaching materials for African schools goes much beyond the question of funds. As there is an urgent need not just for any teaching materials and text- books, but for materials that are more closely in tune with the realities and needs of African societies, a major field of lending activity opens up here.

Among the studies reviewed from Eastern, Central and Southern Africa on instructional materials indicated that there is a scarcity of teaching materials in most schools due to fiscal stringency experienced by most countries in the region. The scarcity seems to go beyond the availability of funds. Most countries in the region have yet to develop a national capacity for the development of low-cost teaching materials that are pedagogically sound. Some of the reasons that have led to inefficiency in the production of teaching materials in most countries in Africa are: lack of expertise in the design, preparation and evaluation of materials; inadequate training of teachers in the use of these materials; lack of production capability, and poor organization of distribution (Eshiwani, 2001). However, in Ghana, the Ghana Education Service has developed a national capacity for the development of low-cost teaching materials that are pedagogically sound for distribution to schools but they are sometimes inadequate.

2.2 Teaching and learning resources

There are teaching and learning resources that teachers use in the teaching and learning process. Makori and Onderi (2014) indicated that there are teaching and learning resources that are available to schools. The following section highlights some of the teaching and learning resources.

Library resource: The immediate benefit of access to reading resources is the promotion of reading culture which in turn underpins the growth and strengthening of literacy skills. The positive outcomes of reading culture is a marked increase in reading fluency, vocabulary acquisition and usage, ability to express ideas and concepts more clearly and accurately (Busayo, 2011 cited in Makori & Onderi, 2014). In a school setting, a functional school library system fulfills a number of purposes (Busayo, 2011; Krolak, 2005), they are:

1. Provision of material resource to enhance academic growth and development;
2. Guidance of students on the choice of relevant materials for study;
3. Provision of support to the teaching programme of school;
4. Provision of assistance to pupils in terms of developing of skills in the use of books and libraries;
5. Acquisition of the relevant books and other reading materials relevant to the school curriculum. In other words libraries provide access to supplementary materials that complement and enhance the learning provided by prescribed textbooks;
6. The library helps to guide students in all aspects of their academic endeavour including developing research skills.

Makotsi (2011 cited in Makori & Onderi, 2014) observes that regular access to books while at school and developing the habit of reading for pleasure have dramatic results in terms of increased vocabulary, text comprehension, and improvement in writing skills and self-expression.

Libraries in general also contribute to other areas such as: lifelong learning, literacy enhancement, informed citizenship, recreation, creative imagination, individual research, critical thinking and ultimately empowerment in an increasingly complex world (Krolak, 2005). Mji and Mkgato (2006) also add that library usage contributes to the improvement of the learners' higher order of learning skills such as analysis, problem solving and evaluation.

Sadly, in Sub-Saharan Africa which includes Ghana, school libraries are either not available or in poor condition or both (Etsey, 2005). However, availability of libraries is one thing and utilising them effectively is another; for instance, Seniwoliba (2013) reports that in Ghana libraries are not fully utilised by either teachers or pupils.

Textbooks resource: According to Gichura (2003), the importance of textbooks in the teaching and learning process has been widely recognised in the literature. Textbooks provide structure and order in the teaching and learning process (Johansson, 2006; Triyoga, 2010) and in the classroom, they are considered as useful and effective tools or instruments whose purpose is to facilitate the work of the teacher on a daily basis (Johansson, 2006) observes that textbooks give students stability and confidence. Textbooks also provide security and confidence to inexperienced teachers (Triyoga, 2010). However, Glennerster, Kremmer, Mbiti and Takavarasha (2011) observe that an average child does not benefit from textbooks. Triyoga (2010) observes that there is no ideal textbook, ideal for every teacher, ideal for every group of learners and ideal for every teaching situation. And for that matter it is advisable to use them carefully and alongside other aids or other materials (Triyoga, 2010). In support, Mudulia (2012) also argues that the use of textbooks among other materials raises academic standards and

efficiency of a school system. Triyoga (2010) further identifies a number of limitations associated with the use of textbooks. They include inauthenticity, distorting content, may not reflect students' needs and may deskill teachers.

According to Mudulia (2012), poor performance in schools in Sub-Saharan Africa has been associated with shortage or lack of core textbooks cited in Makori & Onderi, (2014). In this case, Eshiwani (2001) argue that poor performance of students in Kenya is attributed to poor teaching methods and acute shortage of textbooks. Shortage of textbooks may often result in students or pupils sharing textbooks. In some cases one textbook is shared between 6 or more pupils or sometimes no textbook at all (Makotsi, 2011; UIS, 2011). Worse cases of textbook- Pupils ratios have been reported in the literature, for instance in some schools in Macia the ratios are between 1:40 and 1:100 (World Bank, 2008). In Cameroon the ratio of textbook- pupil is 1:13 (UIS, 2011). In Fiji Islands, the textbooks were either outdated or not available in sufficient number in some rural schools (Lingam & Lingam, 2013).

The whole situation of inadequate textbooks is exacerbated by the lack of supplementary instructional materials (Seniwoliba, 2013). Shortage of textbooks therefore put pressure on teachers and also affects the amount of homework they assign to pupils or students.

Laboratory resource: Kibirige and Hodi (2013) opined that the importance of laboratories in providing learners with opportunities to experience science by employing scientific research procedures. One such opportunity is engaging learners in the inquiry processes through which they can acquire research skills. Also learners gain in terms of understanding the nature of scientific problem solving. Similar views are shared by

Owolabi and Oginni (2012) who observe that one of the activities in science is experimentation because it provides a forum for practicing the theoretical knowledge gained in the classroom and for demonstrating the psychomotor skills of a teacher and learner, thus reinforcing the fact that students' engaging in laboratory equipment and processes is key to achieving the learning objectives. Students who are not engaged in the laboratory equipment see science as abstract and irrelevant (Owolabi & Oginni, 2012).

To Kibirige and Hodi (2013), learners who use laboratory investigation improve their understanding of physical sciences. Mudulia (2012) also reports on a relationship between availability of resources and achievement of science, arguing that high performing schools have higher availability of laboratory equipment and chemicals or consumables than low performing ones. However, acute shortages of laboratory equipment and consumables have been reported in Zambia, Nigeria, South Africa and Fiji among other countries (World Bank, 2008).

There are also reports of poor quality science materials in Fiji (Lingam and Lingam, 2013). Lack of proper use of laboratories has also been reported in South Africa and Portugal (Kibirige & Hodi, 2013). Other issues highlighted in the literature in relations to teaching science include science teachers lack teaching skills and competency and professional development is absent (Kibirige & Hodi, 2013).

Furniture resource: The World Bank (2008) indicated that, in many countries, furniture is either lacking or poor. In some situation the shortage has been described as acute. For instance, in the Fiji islands, school furniture was reported as poor and inadequate to the extent that in some schools furniture shortage was acute and students and/or pupils had to sit on the floor (Lingam & Lingam, 2013).

In Culcutta, India, a study involving head teachers of primary schools, identified lack of electricity, space and furniture as major challenges facing the schools. In Kenya, many schools in the Nairobi inner-city have inadequate furniture; they are either broken or lost (Dierkx, 2003). Learners need physical comfort when sitting, reading and writing and furniture plays a key role in ensuring the comfort of learners. Four key areas in relation to furniture and the learning process: Well designed and constructed; Correctly sized; Fit for its purpose, and If possible made and repairable locally. Poor furniture design has been associated with back pain and more especially in girls (Higgins, Hall, Wall, Woolner, & McCaughley, 2005).

Other Teaching and Learning Resources

The classroom physical environment is one of such other resource. Quality physical environment is very important because studies have shown that it can significantly affect student achievement (Victoria Institute of Technology, n.d.). Similarly, Siddhu (2011) based on a study in India, observed that quality of classroom conditions have strong positive effects on girls. Adedeji and Olaniyan (2011) note that many rural schools across African countries lack essential infrastructure thus making the learning environment less safe, less efficient and less effective. In Kenya in 1999 a government commission of inquiry on education system in part linked declining standards of primary education to inadequate and unsuitable physical facilities (Dierkx, 2003). Schools with poor physical environment are less likely to attract both teachers and students or pupils (Alhassan & Adzalilie-Mensah, 2010). In the area studied, some schools have poor infrastructure and therefore have poor physical environment which

does not help to attract teachers and pupils to the school for teaching and learning to go on smoothly, which is a major concern to parents

2.3 Kinds and Categories of Teaching Aids

There are so many kinds and categories of teaching aids. Different instructional materials are available to be used in teaching any subject effectively, but not all topics require the same type and quality of materials. These materials can be purchased, locally made, or improvised or even imported when necessary for effective instructional delivery.

Adekeye (2008) listed four major categories of instructional materials; visual aid, Audio-visual aids, auditory aids and printed materials. The criteria for classifying instructional materials or teaching aids include the degree of expertise/technical skills needed for production, nature of the material, physiological parameter or sensory modality, the place the material is produced and miscellaneous characteristics. For effective instructional delivery, instructional materials are summarized under the following categories:

1. Projected and electronic materials
2. Non-projected materials
3. Phenomenal and manipulative materials (Iwu, et al., 2011).

Projected and electronic materials are forms of media which could be visual, audio and audio-visual in nature that requires projection and electricity in their use for teaching and learning situation. This can be categorized into tape recorders/recording, radio, slide projectors, overhead projectors, Episcopy video cassette/video disc machine

and computer instructional system (Iwu, et al., 2011). The computer has been found to be the most suitable and versatile medium for individualized learning because of its immense capacity as a data processor used for different games by children. Nwoji (2002) acknowledge three broad ways by which computer contributes to teaching and learning situation, these are mass instruction, individualized information and group learning.

More so, the computer technology has made it possible for teachers and students to avail themselves of interest facilities where they can obtain needed information. The audio (deal with sound only) the visual (as in sight) and audio-visual (a combination of audio and visual i.e. sound and vision) for instance:

Audio: These include such things as Radio, Record players, cassettes, gramophone etc. These aid teaching through the sense of hearing. They can be used in teaching of and at the same time programmes can be expertly presented via them.

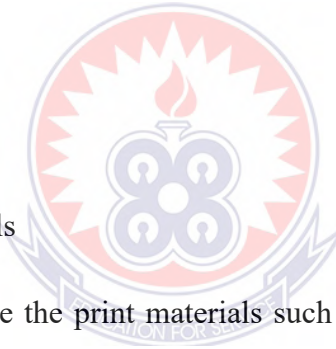
Visual: The category of this consist of maps, Film strips, specimen, pictures, charts, Blackboard, posters etc. This category appeals to the pupils through the sense of sight, the saying that seen, is believed applies to some extent in this context. Until facts are presented in form of visual aid, pupils may not readily grasp the meaning of ideas, concepts and facts.

Audio-Visual: As have said already, this group consists of a combination of both audio and visual materials. They are therefore things like Television films and projector etc, the use of these aids learning greatly (Iwu, et al., 2011).

2.4 Non Projected Media

Not all media (visuals). There is a large variety of non-projected visuals/media which are not plugged into an electrical outlet that can make instruction or training more realistic and engaging. For isolated places, rural areas and schools with low budgets, these simpler materials may be the only media that make sense (Sarfo & Adentwi, 2011). Anyawu (2003) asserted that non-projected materials are those materials that do not require any form of projection before they can be utilized. They include:

1. Chalkboard/white board
2. Flip chart,
3. Specimen,
4. Model,
5. Textual and
6. Non-textual materials



Textual materials are the print materials such as textbooks, journals, periodicals, newspaper among others while the non- textual materials include charts, chalkboards, films, videotapes, audiotapes, regalia, festivals and games. Iwu et. al., (2011) expressed that textual and non-textual materials together assist the students in acquiring clear concepts of subject matters as well as provides security for the unprepared teacher and an escape hatch from a teacher who is instructing outside his field of specialization. While specimens are the real objects or things a teacher can use for effective teaching of science concepts; it makes the science teachers work easier and more participatory.

2.5 Phenomenal and Manipulative Materials

These are the community based resources that promote teaching-learning of moral values and cultural activities of the learners.

Phenomenal Materials

Phenomena are instructional situations such as features, resource persons and other community resources that are directly apprehended by the learner in direct contact with experiences that far transcends volumes of recorded literature (Iwu et. al., 2011). Phenomena are under-utilized because of time, finance, knowledge of the teacher, inflexibility of the school time table and other infrastructural problems. This class of teaching aids or instructional materials deals mostly with the affective domain but do not preclude the psychomotor and cognitive domains.

Manipulative Materials

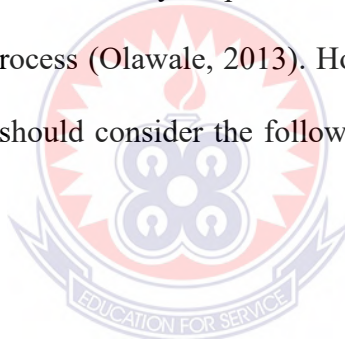
Manipulate materials are those instructional materials which the learner handles skillfully and expertly to bring about the desired behavioral changes. They are very important in the development of skills in professional training (Iwu et. al., 2011). Manipulative materials promote complete mastery of the content materials and the specific objectives. They form part of instructional and performance evaluation. The greatest significance of these materials is that they express the channel through which the required learning takes place, hence cutting across all aspects of skills development and mastery learning. They are also vital for effective instructional delivery because skills such as communication, patience and assertiveness are easily demonstrated, learnt and observed through instructional games.

2.6 The Significance of Instructional Materials

In the words of Olawale (2013), many educationists agree that instructional materials bring about improvement in the teaching/learning process as well as permit teachers and students to interact as human beings in a climate where people control their environment for their own best purposes. Also, most educators generally and equally agree that the creative use of variety of instructional materials will increase the probability that student would learn more, retain better and bring about the skills they are expected to perform. Apart from their ability to process meaningful sources of information, instructional materials help the teacher with the means for extending his horizon of experience as well as providing the teacher with rich sources of procuring communicative materials which could be produced jointly by the teacher and the students. Several studies have been conducted to test the value of instructional materials and other sensory devices. These researches have proved that instructional materials when properly used in teaching learning situations can accomplish a lot of complex tasks (Olawale, 2013). According to Alorvor and el Sadat (2011), the importance of teaching and learning materials are as follows:

1. It helps to remove dullness during lesson delivery
2. It makes learning easy and enjoyable for pupils
3. It makes pupils develop interest in the lesson
4. It creates a link between what is real and what is abstract so that concepts are more easily understood
5. It also serves as a useful tool for lesson evaluation.

Instructional materials also offer real experiences in giving the teacher basis for thinking and understanding. They supply concrete basis for conceptual thinking and therefore reduce meaningless responses of students. At the same time, they overcome the limitations of time, space and size by helping the students to understand things that are too small or too big, or too slow or too fast. Therefore instructional materials can provide members of a group with a common or joint experience. They also break language barriers and ease difficulties and in the end make the lesson more meaningful. They save time and thus enable students grasp ideals more effectively and faster. Likewise, they help to simplify and emphasize facts and clarify difficulties. They reinforce other teaching methods and materials. They improve the efficiency of other method and effectiveness of teaching process (Olawale, 2013). However, before a teacher selects his instructional materials, he should consider the following which will serve as his criteria for selection.



Reliability

As much as possible, teachers should make sure that the Instructional Materials so selected can be used to achieve the objective of the particular lesson. It is wrong for a teacher teaching pilgrimage to come into the class with an apparatus required to teach ablution. In this case, the Instructional Materials cannot be relied upon to achieve the objective of the lesson.

Relevance

Care must be taken to ensure that only instructional materials that relate to the topic are used while teaching.

Cost

The instructional materials should be within the reach of the teacher or the school. The cost of the instructional materials will determine whether it can be bought and used or not; otherwise the teacher selects only that instructional material that costs less. In an event of the inability of the school and age limit. It is wrong to bring into the class instructional materials that cannot be easily used to convey meaning of facts, ideas and concept to the pupils because of the limit of the pupils. A primary one school child may not be interested in a lesson in which telescope is used to present facts. This means teaching instructional materials are not just selected on the basis of their attractiveness but on the basis of certain criteria that will ensure their effectiveness in the teaching and learning processes (Olawale, 2013).

2.7 Selection and Usage of Instructional Materials

According to Olawale (2013), the utilization of instructional materials to a large extent judges the value of teaching aids by the degree in which it singly or collectively satisfies the derived instructional needs. Teaching aids are not ends in themselves but means of attaining specific instructional functions. The ability of the teacher to effectively utilize the available media optimizes the attainments of instructional situation; this varies with the level of utilization. The teacher who wants to use instructional materials should consider the following variables to guide him in the selection of the types to be used in the teaching learning exercise (Olawale, 2013).

Availability

The teacher should ensure that the instructional materials to be used are easily available for use before the date of use. It means that the materials should be in store and the teacher should look at it and test it before the day of the lesson. If the teacher has to prepare it himself, he should do so at least a day before the lesson. No instructional materials that are not available or not easy to prepare should be noted by the teacher in his lesson plan (Olawale, 2013).

Accessibility

It is the duty of the teacher to ensure that the materials to be used as instructional materials are not only available but also accessible to him. If they are already made materials they should be within reach of the teacher on the date and time of use. There should be no excuse that the materials are readily available but locked up in the store because the store-keeper is nowhere to be found or the keys to the store have been misplaced (Olawale, 2013).

Affordability

The instructional materials to be used should not be expensive the cost should be such that either the teacher or the school can afford. It is no use to say that something is available but not affordable due to high cost. There should be a budget for instructional materials and when this is done the cost should not be outrageous; it should be within the budget of the school (Olawale, 2013).

Suitability

The teacher using the instructional materials should ensure the appropriateness of the materials for his intended learners. The materials should be suitable for their age, experience and intelligence. The legal, safety and ethical aspects of the materials to be used should equally be considered. The materials should not portray any anti-social attitude. They should also be free from any bias, distortion or prejudice. If the materials would need electric power then an alternative should be sought to avoid disappointment from electricity.

Simplicity

The instructional materials to be used should be simple to operate or manipulate. The teacher should test the materials and ensure their workability before the actual date of use. There should not be any technical problem and where electricity is to be used provision should be made for an alternative power. No teacher should use electric failure as an excuse for non-performance. In a situation where an instrument demands the hands of a technician, he (the technician) should be on hand and the teacher should have an insight into the operation of the instructional materials (Olawale, 2013).

Quality

The instructional materials selected for teaching by the teacher should be of good quality. Teachers should avoid the idea of "managing" with poor quality materials because he might not achieve the desired aim (Olawale, 2013).

Recency

The instructional materials should be the best or nearest to the best; it should not be out of date. The instructional materials should reflect current and original thought.

Bozimo (2002) advocated the following criteria in the selection of teaching aids:

1. Appropriateness of the materials to instructional objectives,
2. Freedom of the content from bias,
3. Quality of the format, print, sound or photography,
4. Degree of the quality and variety of the materials,
5. Availability of the materials and how to operate the materials,
6. How reasonable the time and effort are for both the students and the teachers.

Another researcher, Anyawu (2003) also identify three ways by which the teacher should prepare for the use of teaching aids; by previewing the material before they are brought to the class, the operational level of the intended materials and actual presentation. Thus, the basic guidelines and requirements for utilization and use of instructional materials in effective instructional delivery include the following:

1. Specification of objectives,
2. Maximal fit with instructional tasks,
3. Preparation and preview,
4. Multidimensional presentation,
5. Environmental situation and
6. Measure of outcomes.

2.8 Relationship between Effective Teaching and use of Instructional Materials

According to Bolick (2003), teaching aids are integral components of teaching-learning situations and not just a supplement but a complement to the teaching-learning process. Thus, if there must be an effective teaching-learning activity, the utilization of instructional materials will be necessary. According to Ema and Ajayi (2004) teaching equipment and materials have changed over the years not only to facilitate teaching-learning situation but also to address the instructional needs of individuals and groups. Instructional materials are therefore objects or things the teacher uses in the classroom while teaching to ease off his teaching activities. Though not all the problems in teaching-learning are solved but it goes a long way in influencing the reality of teaching and learning activities. Teaching aids eliminate the abstract nature of science by concretizing the facts in the lesson content.

2.9 Challenges in the Usage of instructional Materials

Teaching aids are sometimes available in large quantity but how to make the best instructional use of those available with the modern innovation are grossly lacking and faced with a lot of problems in its use by teachers (Iwu et al., 2011). Among these problems are:

Lack of Fund: Some of the materials are very expensive to provide by teachers. Examples are projected, electronic mass media and media that are retaining permanent knowledge to the students.

Teacher's Attitude: Many of the school teachers are ignorant of using those instructional materials and induction course, lecture and seminars are not organized in

teaching profession as they are organized in the civil services to up-grade knowledge and to facilitate the use of sophisticated instructional materials. Teachers also do not make maximum use of the few instructional materials at their disposal, because many of them do not have the knowledge of operating them.

Learner's Attitude: With the stealing of those instructional materials and problem of the students mishandling those instructional materials while teachers are not in the classroom, there is the problem of not leaving the instructional materials in the classroom, so that student can make use of them at their leisure and convenient time.

Lack of facilities: Many schools have no good building to store materials for safety (Iwu et al., 2011).

2.10 Prospects of Teaching Aids

Iwu et al. (2011) indicated that, the importance of instructional materials lies in the fact that abstract ideas and information expressed in printed pages become tangible and concrete when they are translated or reflected in forms of instructional materials and resources. The implications of using teaching aids can be summarized as follows:

1. They are used to explain points
2. To create reality and supply events
3. To encourage active participation
4. To saves the teachers time
5. To enables students to visualize or experience something
6. To facilitate different learning styles
7. To arouse learners interest

8. To provides meaningful and useful sources of information to teachers and learners
9. To develop continuity of reasoning and coherence of thoughts
10. To reduces verbalism or repetition of words
11. To promotes closer and effective communication between the teacher and the learners (Iwu et al., 2011).

2.11 Other Challenges Teachers Face in Accessing Instructional Materials

Teachers face some challenges in accessing instructional materials. One of the big challenges that teachers face in accessing instructional materials is inadequate funds provided by the government to schools for purchasing instructional materials. Very little support is received from local government. The funds are provided in form of capitation grants. The capitation grant is aimed at improving the quality of education by making sure that sufficient teaching and learning material are found at school level. In particular, the capitation grant is meant to finance the purchase of textbooks and other teaching and learning materials as well as to fund repairs, administration materials, and examination expenses (Uwazi, 2010).

However, while the number of students who are enrolled in schools has been increasing each year, education capitation grant has been dropping. This amount of money is grossly insufficient to purchase a minimum set of textbooks apart from other instructional materials which are highly needed by the teachers. According to Onche (2014), government's Policy towards efficient provision of these aspects of educational resources has not been encouraging and has always not been well planned, monitored, supervised and evaluated.

Another challenge that teachers face is the lack of exposure and limited accessibility to modern instructional facilities. Most basic schools especially in do not have adequate access to information communication technology (ICT) which could alleviate shortage of instructional materials. As we are in a new millennium, there is an increased awareness of the need to use modern scientific approach in teaching and learning processes in our schools.

At present, there is a universal recognition of information and communication technology as a major force in the dissemination of knowledge (Aina, 2013). Majority of teachers are not well skilled in the field of Information and Communication Technology. Where there are skilled teachers, other problems naturally include problem of installation, maintenance, operation, network administration and local technicians to service or repair these equipment's and the other facilities. In most of the basic schools, most of the facilities are non-existent, hence the traditional chalk and duster approach still dominates in some basic school pedagogy (Obasi, 2008).

Inadequate salary is also another challenge that teachers face. Teachers like most civil servants in Ghana are not well paid. This becomes a hindrance for them to purchase improvise teaching materials or acquisition of new ideas, skills and knowledge by failure in enrolling for further educational programmes including Information and Communication Technology (ICT). With this, the academic and intellectual capacities of teachers and learners are bound to be affected substantially during classroom interaction (Onche, 2014). Lack of sufficient skills and creativity may hinder teachers to improvise their own instructional materials.

Poverty is another reason, which may hinder members of the community in supporting teachers and schools financially so that they can access instructional materials. According to Kimego (2011), Parents and communities participation differ from rural to urban communities and from one mode of economy to another.

Another challenge that teachers face in accessing instructional materials is lack of clear policy and monitoring mechanisms to ensure that enough funds are provided to basic schools for purchasing instructional materials and also these funds are used for the intended purpose. As Onche (2014) comments, government's Policy towards efficient provision of these aspects of educational resources has not been encouraging and has always not been well planned, monitored, supervised and evaluated.

2.12 Strategies to Minimize the Challenges in the usage of Instructional Materials

There are a number of strategies, which can be used in order to minimize the challenges in using instructional materials. According to studies done in different parts of the world including Africa of which Ghana is part, one of the strategies is improvisation of instructional materials. Eshiet (1996) states that improvisation involves sourcing, selection and deployment of relevant instructional materials into the teaching-learning focus in the absence or shortage of standard materials for a meaningful realization of specified educational goals and objectives.

According to studies done by Abodelraheem & Al-Rabane (2005), Udosen (2011) and Ibe-Bassey (2012) some creation of improvised media of low technological materials and resource-centred learning can enlarge the limited knowledge base of any course of study and enrich instruction to a guaranteed quality. It can also promote strategies that

ensure the integration of technology in the teaching and learning process. Their findings are in agreement with the findings of Dodge (1997) who observed that using technologies like simulation devices open new horizons for individual learning tools, the environment resources and services.

The use of ICT can also minimize some of the challenges in accessing instructional materials. According to UNESCO (2004), the use and rapid spread of electronic communications has the capacity to affect the quality and efficiency of basic education throughout the world. The ease with which teachers and students can gather information over the Internet on virtually any topic has the potential to transform instructional content and pedagogical practice.

Moreover, courses developed by the best teachers in one country can be made available to students across many countries. Newer technology-based instructional strategies, incorporating the Internet and the World Wide Web (WWW), can therefore be used more to expand communication and increase access to resources.

Tinio (2002), points out that ICT has potentials in increasing access and improving relevance and quality of education in developing countries. Tinio further states the potentials of ICT as follows: ICTs greatly facilitate the acquisition and absorption of knowledge, offering developing countries unprecedented opportunities to enhance educational systems.

2.13 Conceptual Framework

A conceptual framework is a model of presentation where a researcher explores and represents the relationships among the studied variables (Orodho, 2004). This study adopted the diagrammatical framework, as shown Figure 2.1.

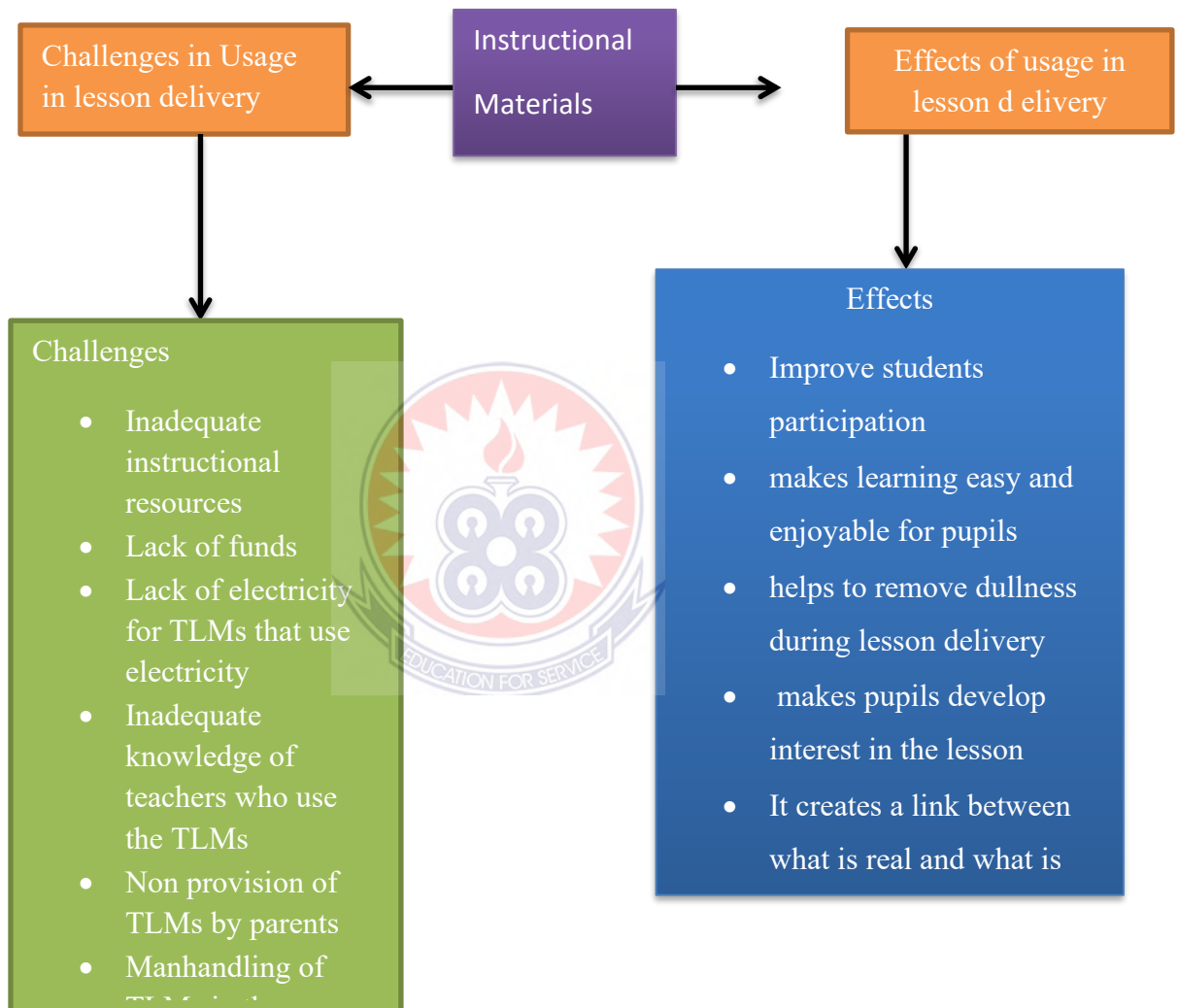


Fig. 2.1 Conceptual Framework

Source: Researcher's construct

Figure 2.1 provided an overview of the relationship between the variables to be tested and instructional resources. The independent variables in this study were instructional resources, while usage and challenges in the use of instructional resources in teaching and learning served as the dependent variables. As can be seen from the figure, there are consequences when teachers use or fail to use instructional resources in teaching. Usage of instructional resources results to general improvement in teaching and learning.



CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

The chapter provides information on the methodology of the study which covers the research design, population of the study, sample and sampling techniques, data collection instruments, validity and reliability of the instrument, data collection procedure, data analysis procedure and ethical considerations.

3.1 Research Design

According to Creswell (2009) research design is the plan to carry out a study with maximum control over factors that may interfere with the validity of the findings. It is the plan that describes how, when and where data are to be collected and analysed.

The descriptive survey design was employed for the study. The descriptive survey design was used because the nature of the topic required a description of the kind of instructional material available and its attendant challenges in junior high schools in the Kumbungu District.

Descriptive survey design is however not without disadvantages. Its disadvantages, according Sarantakos (2005) include the danger of prying into private affairs of respondent and the difficulty in assessing the clarity and precision of the question that would call for the desired responses. This study used purely quantitative method. By adopting a quantitative approach the researcher was able to quantify data and generalize results from the chosen population of interest. Descriptive survey design offers researchers with a lot of information from various respondents for generalization and the

data collected are easy to analyze.

3.2 Population of the Study

Population in research is a group of individuals or people with the same characteristics and in whom the researcher is interested (Creswell, 2009). The target population for this study was teachers in public Junior High Schools in the Kumbungu District. The accessible population was 107 teachers in the seven public Junior High Schools in the Kumbungu Circuit of the Kumbungu District.

3.3 Sample and Sampling Techniques

The process of selecting a portion of the population to represent the entire population is known as sampling (Polit & Hungler, 2004). In order to obtain an appropriate sample size for the study, an updated list of teachers in public Junior High Schools in the Kumbungu Circuit was obtained from the Kumbungu District Directorate of Education.

Simple random sampling was used to select 84 respondents based on Krejcie and Morgan (1970)'s table for the determination of sample size. Krejcie and Morgan (1970)'s table is a standardized table used for determining sample size from a known population. The table states that for a population of about 107, the sample size should be 84. The simple random sampling technique was employed to select the sample size. Here pieces of paper with the inscription 'Yes' of the required number of respondents needed in each of the schools and others with the inscription 'No' of the remaining of the total population in each of the schools were mixed up for each of the schools to pick. Those

who picked ‘Yes’ took part in the study. Schools in the Kumbungu Circuit were used for the study. Proportional sampling was used to select the teachers from each of the schools based on the number of teachers in each school. A total of 84 respondents formed the sample for the study. Table 3.1 shows the sampled size.

Table 3.1 Population and Sample size

Name of School	No. of Teachers	Number Sampled
Sunia English and Arabic J H S	13	10
D/A Block ‘A’ J H S	23	20
D/A Block ‘B’ J H S	20	18
Nibrasia English and Arabic J H S	18	12
Rashadiya J H S	15	10
Watania J H S	10	8
Kumbungu Girls Model JHS	8	6
Total	107	84

Source: Field Work, 2020

3.4 Data Collection Instruments

According to Leedy and Ormrod (2005), a research tool or instrument is a specific mechanism or strategy, the researcher uses to collect, manipulate, or interpret data. The researcher used structured questionnaire as the instrument to collect data for the study. The questionnaire was administered to the respondents personally by the researcher.

Kusi (2012) postulated that questionnaire is an instrument designed to collect data for decision making in research. A questionnaire can also be described as a systematic

compilation of questions that are administered to a sample of a population in research study.

The questionnaire was in a 4-point Likert scale of 4= Strongly Agree, 3 = Agree, 2 = Disagree, 1= Strongly Disagree in which higher score indicate more perceived positive responses. Section 'A' solicits data on the demographic characteristics of respondents, Section B collects data on the kinds of instructional materials available in junior high schools, Section C solicits data on challenges associated with the usage of instructional materials, and Section D finds data on strategies to address the challenges associated with the usage of instructional materials.

The structured questionnaire was meant to assist respondents to provide uniformity of response and to enable more information to be gathered. Questionnaire also provides easier and accurate analysis of the data. A questionnaire is cost effective and less time consuming as compared to other instruments. One disadvantage of using questionnaire is how to retrieve all the questionnaires administered. This notwithstanding, the researcher was able to retrieve all the questionnaire thereby achieving a 100% response rate.

3.5 Pilot Testing

According to Bell (2008), the purpose for piloting is to get the bugs out of the instrument so that the respondents in the study area will experience no difficulties in completing the questionnaire and also enable one to have preliminary analysis to see whether the wording and format of questions is appropriate.

The questionnaire was piloted to determine its validity and reliability. Thirty questionnaires were administered to 30 teachers, selected randomly from three junior high schools outside Kumbungu Circuit namely Nuudua JHS, Mbanayili JHS and Chuyohi JHS. The purpose of the pilot-test was to enable the researcher to make necessary changes to items which may be inappropriate, determine the level of ambiguity of the questions for corrections and determine the percentage of responses. Ambiguous items were amended and inappropriate items were deleted.

Validity

Validity is the degree to which a test measures what it is supposed to measure. The researcher tested the face and content validity of the questionnaire. Face validity refers to the likelihood of a question being misunderstood or misinterpreted. Content validity refers to whether an instrument adequately covers all the topics concerned. The validity of the instrument was established through expert opinions and my supervisor who looked through for corrections. All the necessary corrections were made and included in the final draft.

Reliability

Reliability is a measure of the degree to which a research instrument yields consistency in its results or data after repeated trials. Thirty questionnaires were administered to 30 respondents selected randomly at a Junior High School which was outside the study area twice in the pilot study as discussed above with a two week intervals between the first and the second test and the coefficient of reliability from the two tests correlated. The reliability test yielded Cronbach Alpha of 0.81. The value is

red against the Likert scale which infers that from 0 to 1 is highly reliable. The result therefore meant that the instrument was highly reliable (Sarantakos, 2005).

3.6 Data Collection Procedure

The researcher first obtained an introductory letter from the Department of Educational Leadership, University of Education, Winneba-Kumasi Campus to seek permission from the Kumbungu District Directorate of Education to conduct the study. After permission was given, the researcher visited the schools to brief the respondents on the purpose of the study and also to establish rapport to enable them feel at home in completing the questionnaire. The questionnaire was thereafter administered to the respondents. The respondents were given a period of two weeks to complete the questionnaire after which they were collected. The period of two weeks given to respondents to complete the questionnaire did not in any way affect the findings of the study.

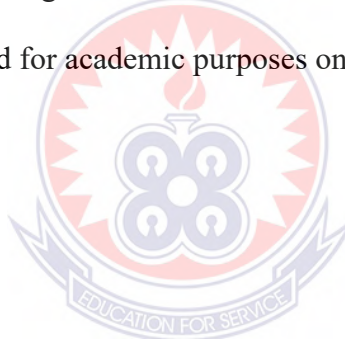
3.7 Data Analysis and Plan

After the required data has been obtained from the field survey, the next step was to analyse the data and interpret it for meaningful understanding. The data were cleaned with the aim of identifying mistakes and errors which may have been made and blank spaces which have not been filled. A codebook for the questionnaire was prepared to record the response. The data were processed using the Statistical Package for Social Sciences (SPSS) software package version 16.0. The data collected were analyzed using

descriptive statistics such as tables with frequencies and percentage to answer the research questions.

3.8. Ethical Considerations

The respondents were not in any way forced to participate in the study, they participated on their own volition. The respondents were given ample time to respond to the questions posed to them to avoid errors and inaccuracies in their answers. The respondents were given a waiver regarding the anonymity of their identity as their names were not required on the questionnaire. The respondents were also assured that the information that they would give would be treated with utmost confidentiality that it deserved and would be used for academic purposes only.



CHAPTER FOUR

RESULTS AND DISCUSSION

4.0 Introduction

This chapter presents the results and discusses the findings of the study. The chapter consists of the demographic data of the respondents to address data on age, sex and educational background. The chapter also presents the analysis and discussions of the main data in accordance with the research questions.

4.1 Demographic characteristics of Respondents

The demographic characteristics of respondents including gender, age and highest educational qualifications are presented in Table 4.1, 4.2 and 4.3.

Table 4.1: Gender of Respondents

Gender	Frequency	Percentage
Male	48	57
Female	36	43
Total	84	100

Source: Field Work, 2020

On respondents' gender, 48 respondents representing 57% were males while 36 respondents representing 43% were females, meaning that males participated in the study more than their female counterparts. The relatively low number females teachers in junior high schools is an indication of gender imbalances in schools which may be due to some limited opportunities for female education in the past.

Table 4.2: Age of Respondents

Age	Frequency	Percentage
21-30 years	16	19
31-40 years	26	31
41-50 years	14	17
51-60 years	28	33
Total	84	100

Source: Field Work, 2020

On respondents' age, 16 respondents representing 19% were in the age bracket of 21-30, 26 respondents representing 31% were in the age bracket of 31-40, 14 respondents representing 17% were in the age bracket of 41-50 while 28 respondents representing 33% were in the age bracket of 51-60. The result implies that the respondents were matured and seasoned to take part in the study.

Table 4.3: Educational Qualification of Respondents

Educational Qualification	Frequency	Percentage
Diploma	16	19
Bachelor's Degree	40	48
Masters' Degree	28	33
Total	84	100

Source: Field Work, 2020

On respondents' educational qualifications, 16 respondents representing 19% were holders of the Diploma certificate, 40 respondents representing 48% were holders of the Bachelor's Degree while 28 respondents representing 33% were holders of the Master's Degree. The result implies that the respondents were matured professional

teachers had the requisite qualifications to participate in the study.

4.2 Answers to the Research Questions

Research Questions 1: What kind of instructional materials are available at Junior High Schools in the Kumbungu District?

The respondents were asked a number of questions relating to the kind of instructional materials available at junior high schools. The results are presented in Table 4.4.

Table 4.4: Kinds of Instructional Materials Available in Junior High Schools

Kind of Instructional Materials	Available and Adequate N (%)	Available and Not Adequate N (%)	Not Available N (%)	Not certain N (%)
Text books	38(45)	46(55)	-	-
Charts	32(38)	52(50)	-	-
Library books	35(42)	49(58)	-	-
Laboratories for practical work	-	12(14)	52(62)	20(24)
Pictures	38(45)	46(55)	-	-
Posters	37(44)	47(56)	-	-
Projectors	-	10(12)	59 (70)	15(18)
Computers	42(50)	33(39)	9(11)	-
Audio cassette recorder	58(69)	16(19)	10(12)	-
White board	63(75)	21(25)	-	-
Symbols	49(58)	35(42)	-	-

Source: Field Work, (2020)

Table 4.2 shows 38 respondents representing 45% indicated that text books were available and adequate in junior high schools in the study area while 46 respondents representing 55% of the indicated that text books were available and not adequate. The result indicates that text books are available in junior high schools in the study area. The result is in line with Gichura (2003) that the importance of textbooks in the teaching and learning process has been widely recognised in the literature. Textbooks provide structure and order in the teaching and learning process (Johansson, 2006; Triyoga, 2010) and in the classroom, they are considered as useful and effective tools or instruments whose purpose is to facilitate the work of the teacher on a daily basis (Johansson, 2006) observes that textbooks give students stability and confidence. Triyoga (2010) observes that there is no ideal textbook, ideal for every teacher, ideal for every group of learners and ideal for every teaching situation. And for that matter it is advisable to use them carefully and alongside other aids or other materials (Triyoga, 2010). According to Mudulia (2012), poor performance in schools in Sub-Saharan Africa has been associated with shortage or lack of core textbooks. Shortage of textbooks may often result in students or pupils sharing textbooks. In some cases one textbook is shared between 6 or more pupils or sometimes no textbook at all (Makotsi, 2011; UIS, 2011).

Also, 32 respondents representing 38% indicated that charts were available and adequate in junior high schools in the study area while 52 respondents representing 50% of the indicated that charts were available and not adequate. The result indicates that charts are available in junior high schools in the study area. The result agrees with Iwuet. al., (2011) that textual materials are the print materials such as textbooks, journals, periodicals, newspaper among others while the non- textual materials include charts,

chalkboards, films, videotapes, audiotapes, regalia, festivals and games. Textual and non-textual materials together assist the students in acquiring clear concepts of subject matters as well as provide security for the unprepared teacher and an escape hatch from a teacher who is instructing outside his field of specialization.

Again, 35 respondents representing 42% indicated that library books were available and adequate in junior high schools in the study area while 49 respondents representing 58% of the indicated that library books were available and not adequate. The result indicates that library books are available in junior high schools in the study area. The result is in tandem with Makori and Onderi (2014) that the immediate benefit of access to reading resources is the promotion of reading culture which in turn underpins the growth and strengthening of literacy skills. The positive outcomes of reading culture is a marked increase in reading fluency, vocabulary acquisition and usage, ability to express ideas and concepts more clearly and accurately (Busayo, 2011 cited in Makori & Onderi, 2014). In a school setting, a functional school library system fulfills a number of purposes (Busayo, 2011; Krolak, 2005), they are: Provision of material resource to enhance academic growth and development; Guidance of students on the choice of relevant materials for study; Provision of support to the teaching programme of school; Provision of assistance to pupils in terms of developing of skills in the use of books and libraries; Acquisition of the relevant books and other reading materials relevant to the school curriculum. In other words libraries provide access to supplementary materials that complement and enhance the learning provided by prescribed textbooks; The library helps to guide students in all aspects of their academic endeavour including developing research skills.

More so, 12 respondents representing 14% indicated that laboratories for practical work were available and not adequate in junior high schools in the study area, 52 respondents representing 62% indicated that laboratories for practical work were not available while 20 respondents representing 24% of the indicated that they were not certain. The result indicates that laboratories for practical work are not available in junior high schools in the study area as majority of the respondents indicated so. Laboratory for practical work is vital in teaching certain subjects. The result contradicts Kibirige and Hodi's (2013) opinion that the importance of laboratories in providing learners with opportunities to experience science by employing scientific research procedures. One such opportunity is engaging learners in the inquiry processes through which they can acquire research skills. Also learners gain in terms of understanding the nature of scientific problem solving. Similarly, Owolabi and Oginni (2012) observed that one of the activities in science is experimentation because it provides a forum for practicing the theoretical knowledge gained in the classroom and for demonstrating the psychomotor skills of a teacher and learner, thus reinforcing the fact that students' engaging in laboratory equipment and processes is key to achieving the learning objectives. Students who are not engaged in the laboratory equipment see science as abstract and irrelevant (Owolabi & Oginni, 2012).

To Kibirige and Hodi (2013), learners who use laboratory investigation improve their understanding of physical sciences. Mudulia (2012) also reports on a relationship between availability of resources and achievement of science, arguing that high performing schools have higher availability of laboratory equipment and chemicals or consumables than low performing ones. However, acute shortages of laboratory

equipment and consumables have been reported in Zambia, Nigeria, South Africa and Fiji among other countries (World Bank, 2008).

Moreover, 38 respondents representing 45% indicated that pictures were available and adequate in junior high schools in the study area while 46 respondents representing 55% of the indicated that pictures were available and not adequate. The result indicates that pictures are available in junior high schools in the study area. The result is in line Iwu, et al. (2011) indicated that visuals such as pictures aids learning greatly.

Also, 37 respondents representing 44% indicated that posters were available and adequate in junior high schools in the study area while 47 respondents representing 56% of the indicated that posters were available and not adequate. The result indicates that posters are available in junior high schools in the study area. The result is in conformity with the assertion of Iwu, et al. (2011) that visuals such as posters appeals to the pupils through the sense of sight, the saying that seen, is believed applies to some extent in this context. Until facts are presented in form of visual aid, pupils may not readily grasp the meaning of ideas, concepts and facts.

Again, 10 respondents representing 12% indicated that projectors were available and not adequate in junior high schools in the study area, 59 respondents representing 70% indicated that projectors were not available in junior high schools in the study area while 15 respondents representing 18% of the indicated that they were not certain about that. The result indicates that projectors are not available in junior high schools in the study area as majority of the respondents asserted to. The result is in line with Iwu, et al. (2011) as they posited that audio visual aids consist of a combination of both audio and

visual materials. They are therefore things like Television films and projector etc, the use of these aids learning greatly (Iwu, et al., 2011).

Again, 42 respondents representing 50% indicated that computers were available and adequate in junior high schools in the study area, 33 respondents representing 39% indicated that computers were available and not adequate in junior high schools in the study area while 9 respondents representing 11% of the indicated that they were not certain. The result indicates that computers are available in junior high schools in the study area. The result is in tandem with Olawale (2013) that examples of instructional materials are charts, maps, diagrams, comics, models, globes, slides, film strips, television, radio cassettes, video, recorders, cinema, public address system, laboratories and museums, flash Cards, flannel boards, card boards, Calendar, Computers, etc. (Olawale, 2013).

Furthermore, 58 respondents representing 69% indicated that audio cassette recorder were available and adequate in junior high schools in the study area, 16 respondents representing 19% indicated that audio cassette recorder were available and not adequate in junior high schools in the study area while 10 respondents representing 12% of the indicated that they were not certain. The result indicates that cassette recorders are available in junior high schools in the study area.

Also, 63 respondents representing 75% indicated that white board were available and adequate in junior high schools in the study area while 21 respondents representing 25% of the indicated that white board were available and not adequate. The result indicates that white board are available in junior high schools in the study area. The result confirms the assertion of Anyawu (2003) that non-projected materials are those materials

that do not require any form of projection before they can be utilized. They include Chalkboard/white board, Flip chart, Specimen, Model and others. Non-projected materials appeals to the pupils through the sense of sight, the saying that seen, is believed applies to some extent in this context. Until facts are presented in form of visual aid, pupils may not readily grasp the meaning of ideas, concepts and facts.

Finally, 49 respondents representing 58% indicated that symbols were available and adequate in junior high schools in the study area while 35 respondents representing 42% of the indicated that symbols were available and not adequate. The result indicates that symbols are available in junior high schools in the study area.

Research Question 2: What challenges are associated with the usage of instructional materials in lesson delivery at Junior High Schools in the Kumbungu District?

The respondents were asked a number of questions relating to challenges associated with the usage of instructional materials in lesson delivery. The results are presented in Table 4.5.

Table 4.5: Challenges Teachers Face in the Use of Instructional Materials

Statements	Strongly	Agree	Disagree	Strongly
	Agree			Disagree
	N (%)	N (%)	N (%)	N (%)
Lack of finance to acquire or improvise needed instructional materials	48 (57)	26(31)	10 (12)	-
Lack of consistent electricity to be used for instructional materials that uses electrical power	38(45)	37(44)	9(11)	-
Inadequate training to upgrade teachers knowledge towards the proper use of modern instructional materials	35(42)	38(45)	11(13)	-
Insufficient time allocation to accommodate effective instructional materials utilization in lessons	29(35)	36(43)	12(14)	7(8)
Parental attitude towards providing their wards with the needed TLMs such as exercise books textbooks etc.	30(36)	44(52)	10(12)	-
Mishandling of instructional materials by learners in the absence of the teacher	37(44)	38(45)	9(11)	-
Poor maintenance culture of existing instructional materials especially projected media	29(35)	43(51)	12(14)	-

Source: Field Work, 2020

Table 4.5 shows that 48 respondents representing 57% strongly agreed that lack of finance to acquire or improvise needed instructional materials was one of the challenges associated with the usage of instructional materials in lesson delivery, 26 respondents representing 31% agreed while 10 respondents representing 12% disagreed. The result implies that lack of finance to acquire or improvise needed instructional materials is one of the challenges associated with the usage of instructional materials in lesson delivery. The result agrees with Iwu et al. (2011) that some of the instructional

materials are very expensive to provide by teachers. Examples are projected, electronic mass media and media that are retaining permanent knowledge to the students.

Also, 38 respondents representing 45% strongly agreed that lack of consistent electricity to be used for instructional materials that uses electrical power was one of the challenges associated with the usage of instructional materials in lesson delivery, 37 respondents representing 44% agreed while 9 respondents representing 11% disagreed. The result implies that lack of finance to acquire or improvise needed instructional materials is one of the challenges associated with the usage of instructional materials in lesson delivery. The result is in tandem with Siddhu's (2011) findings based on a study in India involving head teachers of primary schools that lack of electricity, space and furniture are major challenges facing the schools.

Again, 35 respondents representing 42% strongly agreed that inadequate training to upgrade teachers' knowledge towards the proper use of modern instructional materials was one of the challenges associated with the usage of instructional materials in lesson delivery, 38 respondents representing 45% agreed while 11 respondents representing 13% disagreed. The result implies that inadequate training to upgrade teachers' knowledge towards the proper use of modern instructional materials is one of the challenges associated with the usage of instructional materials in lesson delivery. The result substantiates the assertion of Iwu et al. (2011) that many of the school teachers are ignorant of using those instructional materials and induction course, lecture and seminars are not organized in teaching profession as they are organized in the civil services to upgrade knowledge and to facilitate the use of sophisticated instructional materials.

Teachers also do not make maximum use of the few instructional materials at their disposal, because many of them do not have the knowledge of operating them.

Besides, 29 respondents representing 35% strongly agreed that insufficient time allocation to accommodate effective instructional materials utilization in lessons was one of the challenges associated with the usage of instructional materials in lesson delivery, 36 respondents representing 43% agreed, 12 respondents representing 14% disagreed while 7 respondents representing 8% strongly disagreed. The result implies that insufficient time allocation to accommodate effective instructional materials utilization in lessons is one of the challenges associated with the usage of instructional materials in lesson delivery.

Also, 30 respondents representing 36% strongly agreed that parental attitude towards providing their wards with the needed Teaching Learning Materials such as exercise books textbooks and so on, was one of the challenges associated with the usage of instructional materials in lesson delivery, 44 respondents representing 52% agreed while 10 respondents representing 12% disagreed. The result implies that negative parental attitude towards providing their wards with the needed Teaching Learning Materials such as exercise books textbooks and so on is one of the challenges associated with the usage of instructional materials in lesson delivery. Provision of teaching and learning materials to students is paramount in students' achievement. The result is in line with Mudulia as cited in Makori and Onderi (2014) that poor performance in schools in Sub-Saharan Africa has been associated with shortage or lack of core textbooks. In support, Eshiwani (2001) contend that poor performance of students in Kenya is attributed to poor teaching methods and acute shortage of textbooks.

Moreover, 37 respondents representing 44% strongly agreed that mishandling of instructional materials by learners in the absence of the teacher was one of the challenges associated with the usage of instructional materials in lesson delivery, 38 respondents representing 45% agreed while 9 respondents representing 11% disagreed. The result implies that mishandling of instructional materials by learners in the absence of the teacher is one of the challenges associated with the usage of instructional materials in lesson delivery. The result agrees with Iwu et al. (2011) that with the stealing of instructional materials and problem of the students mishandling those instructional materials while teachers are not in the classroom, there is the problem of not leaving the instructional materials in the classroom, so that student can make use of them at their leisure and convenient time.

Finally, 29 respondents representing 35% strongly agreed that poor maintenance culture of existing instructional materials especially projected media was one of the challenges associated with the usage of instructional materials in lesson delivery, 43 respondents representing 51% agreed while 12 respondents representing 14% disagreed. The result implies that poor maintenance culture of existing instructional materials especially projected media is one of the challenges associated with the usage of instructional materials in lesson delivery. The result agrees with Obasi (2008) that where there are skilled teachers in the use of some instructional materials, other problems naturally include problem of installation, maintenance, operation, network administration and local technicians to service or repair these equipment's and the other facilities. In most basic schools, most of the facilities are non-existent; hence the traditional chalk and duster approach still dominates in some basic school pedagogy (Obasi, 2008).

Research Question 3: What strategies could be adopted to address the challenges associated with the usage of instructional material in lesson delivery at Junior High Schools in the Kumbungu District?

The respondents were asked a number of questions relating to strategies that could be adopted to address the challenges associated with the usage of instructional material in lesson delivery at junior high schools. The results are presented in Table 4.6.

Table 4.6: Strategies to Address Challenges in the use of Instructional Materials

Statements	Strongly Agree N (%)	Agree N (%)	Disagree N (%)	Strongly Disagree N (%)
Provision of adequate funds to acquire or improvise needed instructional materials	35 (42)	37(44)	12(14)	-
Provision of back-up generator to augment electricity power to be used for instructional materials that uses electrical power	36(43)	48(57)	-	-
Provision of regular training on the proper use of modern instructional materials	36(43)	37(44)	11(13)	-
Use of Information and Communication Technology (ICT) as all in one tool to support instructional material in lesson delivery	26 (31)	39(46)	12(14)	7(9)
Educate students on the proper handling of instructional materials to prevent damages	29(34)	46(55)	9(11)	-
Organization of training workshop on proper maintenance of instructional materials especially projected media for effective usage	36(43)	36(43)	7(8)	5(6)

Source: Field Work, 2020

Table 4.6 shows that 35 respondents representing 42% strongly agreed that provision of adequate funds to acquire or improvise needed instructional materials was one of the strategies that could be adapted to address the challenges associated with the usage of instructional materials in lesson delivery, 37 respondents representing 44% agreed while 12 respondents representing 14% disagreed. The result implies that provision of adequate funds to acquire or improvise needed instructional materials is one of the strategies that could be adapted to address the challenges associated with the usage of instructional materials in lesson delivery. The result agrees with Iwu et al. (2011) that some of the instructional materials are very expensive to provide by teachers, therefore the provision of adequate financial resource can enable teachers to improvise the needed instructional materials for effective lesson delivery. According to Udosen (2011), studies done in different parts of the world including Africa of which Ghana is part, one of the strategies is improvisation of instructional materials. Eshiet (1996) states that improvisation involves sourcing, selection and deployment of relevant instructional materials into the teaching-learning focus in the absence or shortage of standard materials for a meaningful realization of specified educational goals and objectives.

Also, 36 respondents representing 43% strongly agreed that provision of back-up generator to augment electricity power to be used for instructional materials that uses electrical power was one of the strategies that could be adapted to address the challenges associated with the usage of instructional materials in lesson delivery while 48 respondents representing 57% agreed. The result implies that provision of back-up generator to augment electricity power to be used for instructional materials that uses electrical power is one of the strategies that could be adapted to address the challenges

associated with the usage of instructional materials in lesson delivery. The result is in line with Olawale (2013) that the teacher should test the instructional materials and ensure their workability before the actual date of use. There should not be any technical problem and where electricity is to be used provision should be made for an alternative power. No teacher should use electric failure as an excuse for non-performance.

Again, 36 respondents representing 43% strongly agreed that provision of regular training on the proper use of modern instructional materials was another strategy that could be adapted to address the challenges associated with the usage of instructional materials in lesson delivery, 37 respondents representing 44% agreed while 11 respondents representing 13% disagreed. The result implies that provision of regular training on the proper use of modern instructional materials is a strategy that could be adapted to address the challenges associated with the usage of instructional materials in lesson delivery. The result confirms Iwu et al.'s (2011) statement that many of the school teachers are ignorant of using those instructional materials and therefore regular induction course, lecture and seminars should be organized in teaching profession to upgrade knowledge and to facilitate the use of sophisticated instructional materials to facilitate teaching and learning.

Besides, 26 respondents representing 31% strongly agreed that use of Information and Communication Technology (ICT) as all in one tool to support instructional material in lesson delivery was one of the strategies that could be adapted to address the challenges associated with the usage of instructional materials in lesson delivery, 39 respondents representing 46% agreed, 12 respondents representing 14% disagreed while 7 respondents representing 9% strongly disagreed. The result implies that use of

Information and Communication Technology (ICT) as all in one tool to support instructional material in lesson delivery is one of the strategies that could be adapted to address the challenges associated with the usage of instructional materials in lesson delivery. The result is in conformity with researchers like Abodelraheem and Al-Rabane (2005), Udosen (2011) and Ibe-Bassey (2012) that the use of ICT can also minimize some of the challenges in accessing instructional materials. According to UNESCO (2004), the use and rapid spread of electronic communications has the capacity to affect the quality and efficiency of basic education throughout the world. The ease with which teachers and students can gather information over the Internet on virtually any topic has the potential to transform instructional content and pedagogical practice.

Tinio (2002), points out that ICT has potentials in increasing access and improving relevance and quality of education in developing countries. Tinio further states the potentials of ICT as follows: ICTs greatly facilitate the acquisition and absorption of knowledge, offering developing countries unprecedented opportunities to enhance educational systems.

Moreover, 29 respondents representing 34% strongly agreed that educating students on the proper handling of instructional materials to prevent damages was one of the strategies that could be adapted to address the challenges associated with the usage of instructional materials in lesson delivery, 46 respondents representing 55% agreed while 9 respondents representing 11% disagreed. The result implies that educating students on the proper handling of instructional materials to prevent damages is another strategy that could be adapted to address the challenges associated with the usage of instructional materials in lesson delivery. The result is in line with Iwu et al. (2011) that students

mishandle instructional materials in the absence of teachers in the classroom, therefore should be educated on the proper handling of such instructional materials to prolong its effectiveness in the usage to improve instruction.

Finally, 36 respondents representing 43% strongly agreed that organization of training workshop on proper maintenance of instructional materials especially projected media for effective usage was one of the strategies that could be adapted to address the challenges associated with the usage of instructional materials in lesson delivery, 36 respondents representing 43% agreed, 7 respondents representing 8% disagreed while 5 respondents representing 6% disagreed. The result implies that organization of training workshop on proper maintenance of instructional materials especially projected media for effective usage is one of the strategies that could be adapted to address the challenges associated with the usage of instructional materials in lesson delivery. The result agrees with Obasi (2008) that some of the problems in the usage of instructional materials include maintenance, thus, local technicians should service or repair these equipment's to facilitate its effective and efficient usage.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

The chapter entails the summary of the study and main findings based on the objectives of the study which comprised the conclusion, recommendations and suggestions for further studies.

5.1 Summary of the Study

The purpose of the study was to investigate challenges in the usage of instructional materials in lesson delivery at Junior High Schools in the Kumbungu District of the Northern Region of Ghana. The objectives of the study were to find out the kind of instructional materials available at Junior High Schools in the Kumbungu District, establish challenges in the usage of instructional materials in lesson delivery at Junior High Schools in the Kumbungu District and to determine strategies that could be adopted to address the challenges in the usage of instructional material in lesson delivery at Junior High Schools in the Kumbungu District.

Descriptive survey design using the quantitative approach was used for the study. The target population for this study was 107 teachers in the seven public Junior High Schools in the Kumbungu Circuit in the Kumbungu District. Simple random sampling technique was used to select 84 teachers for the study. Questionnaire was the main instrument used for the study. The data were processed using the Statistical Package for Social Sciences (SPSS) software package version 16.0. The data collected were analyzed

using descriptive statistics and presented in tables with frequencies and percentage to answer the research questions.

5.2 Key Findings

The study unearthed that text books, charts, library books, pictures, computers and posters. However, projectors, laboratories for practical work and audio cassette recorders were not available in the Kumbungu circuit of the Kumbungu District.

The study also discovered that lack of finance to acquire or improvise needed instructional materials, lack of consistent electricity to be used for instructional materials that uses electrical power, inadequate training to upgrade teachers knowledge towards the proper use of modern instructional materials, insufficient time allocation to accommodate effective instructional materials utilization in lessons, parental attitude towards providing their wards with the needed TLMs such as exercise books textbooks etc., mishandling of instructional materials by learners in the absence of the teacher and poor maintenance culture of existing instructional materials especially projected media were some of the challenges in the usage of instructional materials.

The study again found that, provision of adequate funds to acquire or improvise needed instructional materials, provision of back-up generator to augment electricity power to be used for instructional materials that uses electrical power, provision of regular training on the proper use of modern instructional materials, use of Information and Communication and Technology (ICT) as all in one tool to support instructional material in lesson delivery, educating students on the proper handling of instructional materials to prevent damages and organization of training workshop on proper

maintenance of instructional materials especially projected media for effective usage were some strategies to address the challenges in the usage of instructional materials.

5.3 Conclusions

It is concluded based on the findings that majority of instructional materials are available in junior high schools of the Kumbungu Circuit. If these were so, then it could help improve teaching and learning to enhance students' achievement as students would develop interest in lessons.

It is also concluded that there are some challenges inherent in the use of instructional materials which would not enable the school to achieve the desired results expected.

It is lastly concluded that the handling strategies that could be used to address the challenges in the use of instructional materials if adopted to the latter, would help to promote the use of instructional materials to improve lesson delivery schools.

5.4 Recommendations

Based on the findings and conclusions of the study, the following recommendations are made.

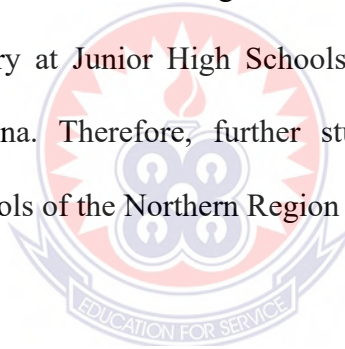
1. The District Directorate of Education should provide schools under their command with adequate teaching and learning materials to facilitate lesson delivery, especially, projectors, audio cassette recorders and laboratory for practical work which the study revealed were not available.

2. The District Directorate of Education should ensure that schools are adequately resourced financially to enable schools to improvise instructional materials that are not available or damaged, to improve lesson delivery.

3. The District Directorate of Education should organize regular training workshops for teachers on the proper use of modern instructional materials to upgrade their knowledge to enable them use instructional materials effectively.

5.5 Suggestion for Further Study

The study was conducted to investigate challenges in the usage of instructional materials in lesson delivery at Junior High Schools in the Kumbungu District of the Northern Region of Ghana. Therefore, further study should be conducted in the remaining junior high schools of the Northern Region



REFERENCES

- Abdelraheem, A. Y., & Al-Rabani, A. H. (2005). Utilization and benefits of instructional media in teaching social studies courses. *Malaysian Online Journal of Instruction Technology*, 2(1), 1-4.
- Adedeji, S. O., & Olaniyan, O. (2011). *Improving the conditions of teachers and teaching in rural schools across African countries*. United Nations Education and Scientific and Cultural Organisation Accessed on 24/03/2020 from (UNESCO).<http://unesdoc.unesco.org/images/0021/002260/216062e.pdf>
- Adekeye, R. B. (2008). *Social studies curriculum lecture materials on SSE 402*. Enugu, Nigeria: Fulladu Publishing Company Ltd.
- Adeogun, A. A. (2001). The principal and the financial management of public secondary schools in Osu State. *Journal of Educational System and Development*, 5(1), 1-10.
- Aina, L. O. (2013). *Information, knowledge and the gatekeepers*. The One Hundred and Thirty-Second Inaugural Lecture delivered at the University of Ilorin, Nigeria.
- Alhassan, S., & Adzahlie-Mensah, V. (2010). *Teachers and access to schooling in Ghana*. Consortium for research on Educational Access, Transition and Equity (Create). Create Pathways Access Research Monograph, No.43. Accessed 24/03/2015 on from http://r4d.dfid.gov.uk/PDF/outputs/ImpAccess_RPC/PTA43.pdf
- Alorvor, L. K., & El Sadat., A. M. (2011). *Effective teaching strategies for teachers*. Accra: Spirit and Soul Limited.

- Anyanwu, J. M. (2003). *The effectiveness of instructional materials in teaching social studies in some selected post primary schools in Owerri Educational Zone Imo State*. B.Ed. Research Project Unpublished.
- Atkinson, R. K. (2000). *Learning from examples: Instructional principles from the worked Examples Research*. Mississippi: Mississippi State University.
- Ato, Z. J. (2010). *Community participation in the provision of basic education in the Mfantshipim Municipality of the central region of Ghana*. Unpublished M. Ed thesis. Cape-Coast: University of Cape-Coast.
- Barrett, A., Clegg, J., Ali, S., Hinostroza, J., Lowe, J., Nickel, J., Novell, M., Oduro, G., Pillay, M., Tikly, L., & Yu, G. (2007). *Initiatives to improve the quality of teaching and learning. A review of recent literature*. London: UNESCO.
- Accessed on 15/03/2015 from <http://unesdoc.unesco.org/images/0015/001555/155504e.pdf>
- Bell, J. (2008). *Doing your research project: A guide for first time researchers in education and social sciences* (4th ed.). Maidenhead: Open University Press.
- Blair, L. (1998). Constructing knowledge by design. *Southwest Educational Development Laboratory News*, 10(4), 3-8.
- Bolick, C., Berson M., Coutts, C., & Heinecke, W. (2003). Technology applications in social studies teacher education: A survey of social studies method. *Contemporary Issues in Technology and Teacher Education*, 3(3), 65-70.
- Borg, W. R., & Gall, M. D. (1986). *Educational research*. Longman: New York.

- Bozimo, G. (2002). *Social studies theories and perspectives*. Onitsha: Out Right Publisher.
- Busayo, I. (2011). *The school library as a foundational step to children's effective reading habits. Library, philosophy and practice*. Retrieved on 17/03/2015. <http://www.webpages.uidaho.ud/~mbolin/busayo-reading.htm> (Accessed on
- Creswell, J. A. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Thousand Oaks, CA: Sage.
- DeVaus, D. (2002). *Survey in research* (5th ed.). Melbourne: La Trobe University.
- Dierkx, R. (2003). Towards community-based architectural programming and development of inclusive learning environments in Nairobi's slums. *Children, Youth and Environment*, 13(1), 12-23.
- Dodge, K. (1997). Socialization mediators of the relation between socio-economic status and child conduct problems. *Child Development*, 65(2), 649-665.
- Ema, E., & Ajayi, D. T. (2004). *Educational technology methods, materials, machines*. London: University Press Ltd.
- Engin-Demir, C. (2009). Factors influencing the academic achievement of the Turkish urban poor. *International Journal of Educational Development*, 29, 17-29.
- Eshiet, I. T. (1996). *Improvisation in science teaching*. Abak: Belpot (Nig) Co. Farrant
- Eshiwani, G. (2001). *Mathematics education around the world, bridging policy and practice: The role of algebra in the middle and secondary mathematics curriculum*. USA: A Paper presented at an International Seminar in Park City Mathematics Institute.

- Eshiwani, S. G. (1986). *Utilization of instructional resources: A review of Published and Unpublished Research from Eastern, Central and Southern Africa*. Bureau of educational research. Nairobi, Kenya: Kenyatta University.
- Etsey, K. (2005). *Cause of low academic performance of primary school pupils in the Shama Sub-Metro of Shama Ahanta East Metropolitan Assembly (SAEMA) in Ghana*. Dakar, Senegal: Regional Conference in Education in West Africa.
- Farombi, J. G. (1998). *Resource Concentration, Utilization and Management as Correlates of Students' Learning outcomes: A study in School Quality in Oyo State*. Unpublished Ph.D. Thesis, University of Ibadan, Nigeria.
- Gay, L. R., & Airasian, P. (2003). *Educational research: Competencies for analysis and application* (7th ed.). Upper Saddle River, NJ: Pearson Education.
- Gbordzoe, E. (2005). Education should transform human resource. *Daily Graphic*. No. 149461, p.11.
- Gichura, S. (2003). *The turning point: Free primary education in Kenya*. Network for International Policies and Cooperation in Education and Training. Norrag News. Accessed on 15/03/2015 from <http://www.norrag/en/publications/norrag-news/online-version/critical-perspectives-on-education-and-skills-in>.
- Glennerster, R., Kremmer, M., Mbiti, J., & Takavarasha, L. (2011). *Access and quality in the Kenyan education system: A review of the progress, challenges and potential solutions*. Prepared for the office of the prime minister of Kenya. Accessed on 18/04/2015 from <http://www.povertyactionlab.org/publication/access-and-quality-kenyan-education-system>

- Grafweg, A. (2010). *The challenges of developing appropriate school environment in Rwanda*. Oxford Brookes University: MA Dissertation (Unpublished).
<http://humanitarianschools.org/downloads/challenges-of-developing-appropriate-school-environment.pdf> (Accessed on 20/04/2015)
- Higgins, S., Hall, E., Wall, K., Woolner, P., & McCaughley, C. (2005). *The impact of school environment: A literature review*. Design Council: University of Newcastle upon Tyne. Sponsored by cfBT Research and Development. Accessed on 28/12/2013 from <http://www.ncl.ac.uk/cflat/news/DCReport.pdf>
- Indoshi, F. K. (1993). Emerging trends in educational research and policy studies. *Journal of Emerging Trends in Educational Research and Policy Studies, JETERAPS*, 3(4), 12-21.
- Instructional Planning and Assessment. Retrieved from www.mcgrawhill.ca/college/airasian
- Iwu, R. U., Ijioma, B. C., Onoja A. I., & Nzewuihe, G. U. (2011). Teaching aids: A panacea for effective instructional delivery in biology. *Researcher*, 3(2), 62-65.
- Johansson, M. (2006). *Teaching mathematics with textbooks: A classroom and curricular perspectives*. Lulea University of Technology: Doctoral Thesis (Unpublished).
Accessed on 16/04/2015 from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.106.9354&rep=rep1&type=pdf>
- Joppe, M. (2000). *The research process*. Retrieved February 25, 2020, from <http://www.ryerson.ca/~mjoppe/rp.htm>.

- Kibirige, I., & Hodi, T. (2013). Learners' performance in physical sciences using laboratory investigation. *International Journal of Education Science*, 5(4), 425-432.
- Kimago, H. R. (2011). *Study Guide for Med APPS Course*. Dar es Salaam: University of Dar es Salaam.
- Krolak, L. (2005). *The role of libraries in the creation of literate environments*. Accessed on 16/04/2015 from <http://www.fla.org/files/assets/literary-and-reading/publication/role-of-libraries-in-creation-of-literate-environments.pdf>
- Kusi, H. (2012). *Doing qualitative research: Guide for researchers*. Accra-Newtown: Emmpong Press.
- Lingam, G., & Lingam, N. (2013). Making learning and teaching a richer experience: A challenge for rural Fijian primary schools. *Education Research Reviews*, 8(21), 2160-2168
- Makori, A., & Onderi, H. (2014). An evaluation of secondary school principals' perception of learning resources in free secondary education era in Kenya. *African Educational Research Journal*, 1(3), 171-182.
- Makotsi, R. (2011). Sharing resources-how library networks can help reach education goals. Book International. Accessed on 17/03/2015 from <http://www.bookaid.org/wp-content/uploads/2011/06/sharing-Resources-how-library-networks-can-help-reach-education-goals.pdf>

- Marks, G. (2010). What aspects of schooling are important? School effects on tertiary entrance performance. *School Effectiveness and School Improvement*, 21(3), 267-287.
- Mensah, (2018). *The usage of instructional materials and its challenges in lesson delivery in Atwima Nwabiagya District of the Ashanti Region of Ghana*. Unpublished M. A thesis. Winneba: University of Education.
- Mji, A., & Makgato, M. (2006). Factors associated with high school learners' poor performance: A spotlight on mathematics and physical science. *South Africa Journal of Education*, 26(2), 253-266.
- Morgan, J. (2008). *Community participation in basic education in Agona district of the Central Region of Ghana*. Unpublished M. Ed thesis. Cape Coast: University of Cape-Coast.
- Mudulia, A. (2012). The relationship between availability of teaching/learning resources and performance in secondary school science subjects in Eldoret Municipality, Kenya. *Journal of Emerging Trends in Educational Research and Policy Studies (JETERAPs)*, 3(4), 530-536.
- Mugenda, O. M. (1999). *Research methods: Quantitative approaches*. Nairobi: Acts Press.
- Musasia, A., Nakhunu, S., & Wekesa, W. (2012). Investigation of factors that influence syllabus coverage in secondary school mathematics in Kenya. *International Journal of Humanities and Social Science*, 2(1), 51-59.

- Nwoji, (2002). *Production and utilization of teaching materials*. Enugu, Nigeria: Fulladu Publishing Company Ltd.
- Obasi, E. (2008). Challenges for secondary education in the culturally diverse Nigerian society. Being text of lead paper at the National Association of Sociologists of Education (NASE) conference holding at the University of Nigeria. Nsuka, Nigeria.
- Ogunmade, T. (2005). *The status and quality of secondary science teaching and learning in Lagos State, Nigeria*. PhD Thesis (Unpublished).Perth: Edith Cowan University. Accessed on 14/03/2015 from <http://ro.ecu.edu/cgi/viewcontent.cgi?article=1086&content=theses>
- Olawale, S. K. (2013). *The use of instructional materials for effective learning of Islamic studies*. Enugu, Nigeria: Fulladu Publishing Company Ltd.
- Onche, A. (2014). Meeting the challenge of accessibility and utilization of modern instructional materials in Rural Secondary Schools in Nigeria. *International Journal of Multidisciplinary Studies*, 1(2), 1 – 13.
- Onderi, H., & Makori, A. (2013). Secondary school principals in Nyamira County in Kenya: Issues and challenges. *Educational Research International*, 1(1), 67-89.
- Orakwe, I. T. C. (2000). *Social studies (Education Basics) for tertiary institutions*. Onitsha: Desvic Publishing Company.
- Owoeye, J., & Yara, P. (2011). School facilities and academic achievement of secondary agricultural science in Ekiti State, Nigeria. *Asian Social Science*, 7(7), 64-74.
- Owolabi, T., & Oginni, I. (2012). Improvisation of science equipment in Nigerian schools. *Universal Journal of Education and General Studies*, 1(3), 44-48.

- Padururu, C. (n.d). *What are the advantages of using textbooks in a classroom?* Accessed on 16/03/2015 from http://www.ehow.com/info_7864584_advantage-usingtextbooks-classroom.html
- Pule, E. (2007). *Sports participation in secondary schools at Atteridgeville*. Pretoria West. Tshwane University of Technology: MA Dissertation (Unpublished). http://libers5.tut.ac.za:7780/pls/eres/wpg_docload.download_file?p_filename=F17900970/pule,%20E.R.J.pdf.
- Sarantakos, S. (2005). *Social research*. Hampshire: Palgrave Macmillan.
- Sarfo, F. K., & Adentwi, I. K. (2011). *Educational technology*. Kumasi: Walas Press.
- Seniwoliba, A. (2013). Assessing the impact of the quality of improvement in primary schools programme on teachers and communities in the northern sector of Ghana. *Merit Research Journal of Education and Review*, 1(10), 208-226.
- Siddhu, G. (2011). Who makes it to secondary schools? Determinants of transition to secondary schools in rural India. *International Journal of Educational Development*, 31, 394-401.
- Steele, F. (2007). The effect of school resources on pupils' achievement: A multilevel simultaneous equation modelling approach. *Journal of the Royal Statistical Society*, 170, 801-824.
- Tinio, V. L. (2002). ICT in Education: UN Development Programme. (Retrieved on April 2020 from <http://www.eprmers.org>).
- Triyoga, A. (2010). *Some hindrances in using ready-made textbooks. Post Graduate program. English Education Department*. Blogspot: Ahmed Dahlan. University.

Accessed on 17/03/2020 from <http://arilia.blogspot.co.uk/2010/06/some-hindrances-in-using-ready-made.html>

Udosen, I. N. (2011). Instructional media: An assessment of the availability and frequency of use by social studies teachers in Akwa Ibom State. *Journal of Educational Media & Technology (JEMT) Nigeria*, 15(2), 141-160.

UNESCO Institute for Statistics (UIS) (2011). School and teaching resources in Sub-Saharan Africa: An analysis of the 2011 UIS regional data collection on education. UIS Information Bulletin No. 9, UNESCO. Accessed on 18/04/2020 from <http://www.uis.unesco.org/education/documents/1b9-regional-education-africa-2012-en-v5.pdf>

UNESCO, (2004). *Adapting technology for school Improvement: A global perspective*. Washington DC: International Institute for Educational Planning.

Uwazi, P. (2010). *Capitation grants for education. When will it make a difference?* Dares Salaam: Published Uwazi at Tweweza.

Victoria Institute of Teaching (n.d). *The effect of the physical learning environment on teaching and learning*. Accessed on 10/03/2020 from http://www.vit.vic.edu.au/SiteCollectionDocuments/PDF/1137_TheEffect-of-the-physical-learning-Environment-on-Teaching-and-Learning.pdf

Wei, Y., Clifton, R., & Roberts, L. (2011). *School resources and the academic achievement of Canadian students*. Accessed on 16/02/2020 from <http://ajer.synergies praries.ca/ajer/index.php/ajer/article/view/949>

World Bank (2008). *Textbooks and school library provision in secondary education in Sub-Saharan Africa*. World Bank Working Paper No. 126. Washington DC: World Bank.



APPENDIX A

UNIVERSITY OF EDUCATION, WINNEBA

INTRODUCTION LETTER

Dear Respondent,

I am a graduate student of the University of Education, Winneba- Kumasi Campus, conducting a study to investigate challenges in the usage of instructional materials in lesson delivery at Junior High Schools in the Kumbungu District of the Northern Region of Ghana, in partial fulfillment for the award of Master of Arts in Educational Leadership Degree.

I would be much appreciated if you could kindly respond to the questionnaire attached as you have been selected to participate in the study. The information you would provide would be treated with utmost confidentiality that they deserved.

I count on your cooperation.

Yours faithfully,

IBRAHIM JUWEIRIA

(POST GRADUATE STUDENT)

QUESTIONNAIRE FOR RESPONDENTS

Please (✓) tick the most appropriate response. Your Confidentiality is ASSURED

SECTION A: Demographic characteristics of Respondents

1. Gender

a) Female []

b) Male []

2. Age:

a) 21-30 years []

b) 31-40 years []

c) 41-50 years []

d) 51-60 years []

3. Highest Educational Qualification:

a) Diploma/HND []

b) Bachelors' Degree []

c) Masters' Degree []



**SECTION B: KINDS OF INSTRUCTIONAL MATERIALS AVAILABLE IN
JUNIOR HIGH SCHOOL**

Tick the appropriate option that corresponds with your answer to the following questions on the kind of instructional materials available to your school.

Respond with options 4 = Available and Adequate, 3= Available and not Adequate, 2=Not Available, 1= Not Certain

	Instructional Materials	4	3	2	1
1	Text books				
2	Charts				
3	Library books				
4	Laboratories for practical work				
5	Pictures				
6	Posters				
7	Projectors				
8	Computers				
9	Audio cassette recorder				
10	White board				
11	Symbols				

**SECTION C: CHALLENGES ASSOCIATED WITH THE USAGE OF
INSTRUCTIONAL MATERIALS IN LESSON DELIVERY**

Tick the appropriate option that corresponds with your answer to the following statements on challenges associated with the usage of instructional materials. Respond with options 4 = Strongly Agree, 3= Agree, 2 = Disagree, 1 = Strongly Disagree.

	Statement	4	3	2	1
1	Lack of finance to acquire or improvise needed instructional materials				
2	Lack of electricity to be used for instructional materials that uses electrical power				
3	Inadequate in-service training to upgrade the knowledge of teachers towards the proper use of modern instructional materials				
4	Insufficient time allocation to accommodate effective instructional materials utilization in lessons				
5	Parental attitude towards providing their wards with the needed TLMs such as exercise books textbooks etc.				
6	Mishandling of instructional materials by learners in the absence of the teacher				
7	Poor maintenance culture of existing instructional materials especially projected media				

SECTION D: STRATEGIES TO ADDRESS CHALLENGES IN THE USE OF INSTRUCTIONAL MATERIALS

Tick the appropriate option that corresponds with your answer on the strategies to address challenges in the use of instructional materials in lesson delivery. Respond with 4=Strongly agree, 3=Agree, 2 = Disagree, 1 = Strongly Disagree

	Statements	SA	A	D	SD
1	Provision of adequate funds to acquire or improvise needed instructional materials				
2	Provision of back-up generator to augment electricity power to be used for instructional materials that uses electrical power				
3	Provision of regular training on the proper use of modern instructional materials				
4	Use of Information and Communication Technology (ICT) as all in one tool to support instructional material in lesson delivery				
5	Educate students on the proper handling of instructional materials to prevent damages				
6	Organization of training workshop on proper maintenance of instructional materials especially projected media for effective usage				

Thank you for your cooperation.