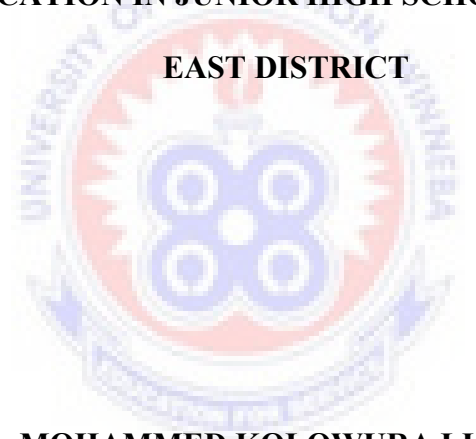
UNIVERSITY OF EDUCATION, WINNEBA

INFLUENCE OF IMPROVISED EQUIPMENT ON THE TEACHING OF PHYSICAL EDUCATION IN JUNIOR HIGH SCHOOLS IN THE SISSALA EAST DISTRICT



MOHAMMED KOLOWURA LULUA

JUNE, 2012

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A Dissertation in the Department of HEALTH PHYSICAL EDUCATION RECREATION AND SPORTS, Faculty of SCIENCE EDUCATION Submitted to the School of Graduate Studies, University of Education, Winneba in partial fulfilment of the requirements for Award of the Master of Education (Physical Education) Degree.

JUNE, 2012

DECLARATION

STUDENT

I, Mohammed Kolowura Lulua declare that this project, 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

I, Dr. J. A. Baba declare that the preparation and presentation of this work was supervised in accordance with the guidelines for supervision of project as laid down by the University of Education, Winneba.

Signature:……...…

Date:……...

DEDICATION

I dedicate this piece of work to my mother Alima, my children Awudu and Ayisha and Wemana, my beloved wife.

ACKNOWLEDGEMENTS

The writer owes an immense debt of gratitude to many individuals without whose assistance and support writing of this thesis would not have come to fruition.

My greatest debt of gratitude goes to my supervisor, Dr. J. A. Baba who took pains and time to read through the whole script, made the necessary corrections and furnished me with useful suggestions. I also acknowledge my wife who supported me financially and kept me company throughout the research period.

I wish to express any appreciation and indebtedness to all the head teachers and teachers of schools in the Nabulo and Wallembelle circuits that participated in the study and through whose co-operation data for this research work were gathered.

Finally, I acknowledge and accept responsibility for any criticisms and errors in this report which are strictly mine.

ABSTRACT

The purpose of this research is to find out the need for improvisation and identify the problem associated with the teaching of physical education especially in the face of dwindling resource mobilization in terms of equipment. The descriptive survey research method was used. Twenty-five (25) teachers in both Nabulo and Wallembelle circuits were randomly selected as sample for the study. A structured questionnaire which was face validated by my supervisor (Dr J. A. Baba) was used to gather the data. The data was analyzed using frequency tables and percentages. Based on the data analysis and discussion, it was realized that improvisation of equipment and is very necessary because of the increasing number of enrolment figures of students in rural schools. It was recommended among others that, teachers in the field of physical education and sports should be encouraged to improvise equipment for use in teaching physical education using local raw materials so that they can improve upon the teaching and learning of physical education. This research presents the need for improvisation of equipment and as a solution for the teaching of practical physical education and sports in the face of lack of or inadequate funds for schools.

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CHAPTER ONE

INTRODUCTION

1.0 Background of the Study

Physical Education as an integral part of total education begun with the creation of man. Mankind has therefore survived throughout these ages, because his physical prowess has been used to advantage. For example, his routine consisted of hunting, searching and gathering of fruits, as well as protecting himself against wild animals and other enemies whom he came into contact with. SIn light of this, the need for developing physical qualities was felt long ago even in the era of primitive cultures. This is the reason why emphasis is laid on the training of physical aspects of the individual.

Equipment are necessary to make teaching and learning more interesting and effective especially in sporting programmes. Teachers of Physical Education do not have to wait until there is enough money to purchase equipment. Physical Education teachers should be resourceful and creative. Improvisation is an element of creativity and resourcefulness. It is the use of local resources in our immediate to build or create, construct or make instructional teaching and learning materials that can assist in the teaching or transfer of knowledge from teachers to students or even from coaches to athletes.

Improvisation of resources means that there are possibilities of teaching and learning alternatives in Physical Education. Improvisation should therefore meet specific teaching and learning situations. Consequently, improvisation has become imperative in teaching and learning because, the economic situation makes the cost of equipment very high amidst dwindling financial resources. Even if equipment are available, the increasing enrolment of pupils and students into school and increasing number of sports participants

amidst static or decreasing number of equipment still pose a problem. Improvisation of equipment is a solution to the problem associated with the teaching and learning of Physical Education in the rural schools in the Sissala East District especially in the Nabulo and Wallembelle Circuits where teachers and learners will use the equipment to their benefit. The qualities for improvisation include creativity or resourcefulness and that can transform ones rich imagination into reality. Creativity is an important ingredient for improvisation. It is the use of local resources in our immediate environment to build, construct or make instructional teaching and learning materials that can be used to assist in the dissemination and transfer of knowledge from teachers to students. The aim of improvisation of equipment is to provide a better alternative to teaching Physical Education in the absence or shortage of equipment alternatives. Recent investigations show that the teaching of physical education in the junior high schools especially in the Sissala East District is not encouraging. The practical aspect in the teaching of physical education lessons in some schools is non-existent. While some teachers in the junior high do not prepare lessons notes and even improvised equipment in the teaching of physical education the situation is regrettable. The teachers rather concentrates on the sports aspect where they prefer using the only school soccer ball for recreational and sports activities to improvising many and varied equipment in the teaching of shills acquisition. The teaching of physical education therefore in most schools is replaced by other subjects on the time- table. The significance of improvisation of Physical Education equipment is to provide a proper substitute for conventional equipment, and to develop the necessary process, skills and attitudes amongst students so as to enable them to become better athletes and sports participants in future.

1.1 Statement of the Problem

The teaching of Physical Education and sports in junior high schools in the rural areas in Ghana faces a lot of challenges with regards to teachers' ability to teach physical education and sports. It is clear that teachers have little or no idea about improvisation as a way of tackling the issue of non-availability of equipment in the teaching of Physical Education especially in the rural basic schools in Sissala East District in the Upper West Region. This phenomenon unfortunately, continues to downplay the use of improvised equipment as a key factor that can strengthen the teaching and learning of Physical Education, thus improve the performance of psychomotor skills amongst the pupils in the rural schools in times of sporting activities and competition.

1.2 Purpose of the Study

The purpose of this research is to find out the need for improvisation and identify the problem associated with the teaching of Physical Education especially in the face of dwindling resource mobilization in terms of equipment. The researcher wishes to find out whether the improvisation of some equipment can help address the shortage of standardized equipment for the teaching of Physical Education and sports in Junior High Schools. The aim of the study is to appeal to the resourcefulness and creativity of Physical Education teachers to provide alternatives in the teaching of Physical Education and to encourage the improvisation of equipment using local materials where these are inexpensive and available in abundance. `

1.3 Research Objectives.

The objectives of the research are to:

1. Examine the importance of improvisation of equipment to the teaching of Physical Education in the rural areas.
2. Examine teachers' and learners resourcefulness on improvisation of equipment for the teaching of Physical Education and sports in basic schools
3. Identify whether the use of improvised equipment and will improve the teaching of Physical Education and enhance learner's skill performance.

1.4 Research Questions

1. What are the factors that necessitate the improvisation of equipment in the teaching of Physical Education in basic schools in the Sissala East District?
2. What kind of equipment can be improvised using available resources within the Sissala East District?
3. What, within the environment a school is situated, contribute to the development and promotion of improvised equipment for the teaching of Physical Education in the Sissala East District?

1.5 Hypothesis

The use of improvised equipment in the teaching of Physical Education will significantly enhance the learning process of school children in the Sissala East District of the Upper West Region.

1.6 Significance of the study

Results of this study will:

1. Help improve the teaching of Physical Education and sports in basic schools in Ghana.
2. Encourage the teachers, learners and administrators to embrace the concept of improvisation of equipment.
3. Solve the problems associated with the inadequacy or lack of equipment in the rural areas of the country, especially.
4. Help teachers, learners and other persons to explore their environment and make use of available resources in improvising equipment for teaching Physical Education.
5. Fulfill the M.Ed requirements of the University of Education, Winneba for graduation.

1.7 Delimitation of the Study

This study is delimited to twenty-five (25) selected Junior High Schools within the Sissala East District in the Upper West Region. The reason for this delimitation was due to accessible roads during the rainy season.

1.10 Limitation of the Study

Research of this nature is often aimed at drawing conclusions that are relevant to the needs of the nation. However, the accessibility of schools during rainy season and limited time available for the research process has compelled the researcher to limit the research

to only one District in Ghana and specifically to Nabulo and Wallembelle Circuit schools only.

1.11 Definition of Terms

Socks balls: one's ability to use available materials to stock a sock into a round shape using a needle or twine to tie.

Improvisation -act of creating, constructing or molding local materials into shapes corresponding to the original equipment or it is making or doing something quickly in time of need using whatever happens to be available, especially making use of local materials to make pieces of apparatus for use in place of standardized ones

Apparatus – they are tools, instruments or machinery that are put together for a purpose. In physical education, apparatus may range from small to large, each depending on its purpose. Examples include skittles, balls, ropes and mat

Resourcefulness: The ability to make improvised equipment for use in a lesson in the absence of the standardized ones.

Circuit – is a cluster of schools in the educational sector

Capitation grant- it is sports and cultural fees Ghana government pays to basic schools children on behalf of parents in public schools

Improvisation by substitution-where an already existing local material is used in place of equipment that is not available.

Improvisation by construction- where a person construct a new material entirely to teach his lesson, when the required equipment is not available.

CHAPTER TWO

REVIEW OF LITERATURE

The literature is reviewed based on the following sub-headings:

1. Introduction
2. Purpose of Improvisation
3. Types of Improvisation
4. Advantages of Improvisation
5. Construction of Improvised Equipment
6. Selecting of Materials for Improvisation
7. Funding of Improvised Equipment
8. Equipment that can be Improvised
9. Safety Measures of Improvised Equipment.

2.0 Introduction

In physical education, the use of equipment plays a very important role in effective teaching and learning in the basic schools in rural areas where the nation's future sportsmen and women are tapped and nurtured for high performance sports. The absence of basic equipment in schools in Ghana is posing a great problem to teaching and learning in Physical Education. The absence of basic equipment for teaching is not as problematic as the high cost of such equipment in the market place. Most of the schools in areas under research cannot afford to purchase these standardized equipment at their current prices. Since Physical Education is a basic right of the school child teachers must continue to be innovative and find new ways of promoting learning in the subject area. Under such conditions, therefore, they must acquire the skills and knowledge to improvise some equipment using local materials rather than being dependent on internationally approved equipment.

Success in the teaching Physical Education does not only of depend on the presence of a good technical instructor, but also a congenial atmosphere and an environment that is well equipped with essential tools for learning these activities. It is therefore an indisputable fact facilities and equipment are necessary ingredients for effective teaching and learning of education.

2.1 Purpose of Improvisation.

Improvisation of equipment aims to provide a better alternative to perform practical work in the absence or shortage of standardized equipment. The significance of improvisation of Physical Education equipment is two folds; first to provide a proper substitute for the conventional equipment, and second to develop the necessary process, skills and attitudes amongst students so as to enable them to become better scientists in future.

As mentioned above, many basic schools in Sissala East District do not possess necessary equipment and facilities for performing various activities. The use of self-prepared and improvised equipment can overcome such possible obstacles in the practical teaching of Physical Education. It is, therefore, certain that improvisation of equipment can make teaching and learning of a particular skill very effective. Sometimes the improvisation of equipment and facilities may take away a considerable amount of valuable time but it would never be a wasteful effort.

2.2 Types of Improvisation

Improvisation of equipment needed for the teaching of practical activities in Physical Education may be classified mainly in two categories:

1. Substitution improvisation
2. Construction of innovative equipment.

Substitution of traditional equipment calls for a self-designed improvised equipment as an alternative to the conventional one in order to perform the intended activities in the field, for instance using stone for shot put throw. The second type of improvisation involves the construction of new equipment by using low cost materials readily available around us, besides the direct use of toys to replace the equipment, for example, using toy balls in the teaching of basketball.

2.3 Advantages of Improvisation

The improvised apparatus not only serves many academic purposes but also has many other advantages over the standardized equipment. The advantages are:

a. Improvised equipment serve almost the same purpose as standard apparatus
b. These equipment and cost less to produce.
c. They stimulate students and motivate them to learn and be innovative.
d. They serve to relate theory to practice in a rather structured and controlled manner because of the adequacy of teaching materials.
e. They can easily be repaired or replaced by teachers and students.

For clarification purposes the results obtained with improvised equipment may not be as accurate as with standard equipment manufactured commercially. However, it should not be considered a short-coming of such equipment because, it is the learning process which is more important than the accuracy of the results obtained. Moreover, improvised equipment can provide opportunity for developing many experimental skills which are

usually not possible to be developed through the use of standard equipment as it is impossible to acquire sufficient standard resources for all Physical Education activities. Teachers and learners in schools must therefore have to make a conscious effort to improvise some equipment.

Improvisation must be seen as part of Education because the process is a learning experience for both teachers and learners. Making improvised Physical Education equipment can be a project in mathematics class, for example students can make batons and measure their length, weight and circumference. Students can create a data file for all the batons, draw graphs to represent distributions and find measures of central tendency.

According to Coppen, the amount and type of apparatus or equipment in a school will influence the extent to which a physical education programme can be effectively taught, they may be fixed or portable kind.

In the opinion of McGraw-Hill (1961), he agreed that planning of physical education teaching is never complete without a considerable consideration of equipment and teaching aids. As part of his preparation, the teacher must familiarize himself with the physical limitations of the local situation, anticipate programme needs in terms of space and instructional materials and arrange for the use of needed building and ground space, equipment and teaching materials. The free approach method of teaching Physical Education emphasizes on maximum individual activity which in turn, aims at promoting useful skills and techniques. This calls for the need for the provision of large verities of small apparatus for first cycle schools throughout the country. But since there are not enough funds to meet the apparatus requirements of these schools, there is therefore the need for teachers and students to be resourceful.

Ayi-Bonte (1967), writing about the limited resources of most schools and the need for improvisation to meet their apparatus requirements agreed that funds for expendable equipment in schools are not adequate to meet this extra need. Even if they were, it would still not be necessary to spend large sums of money on equipment. Most of them can be made locally and in most cases by the children themselves, at little or no cost. In support of the need to improvise pieces of apparatus to meet the apparatus requirements of various schools,

Coward and Lane (1970), said:

> *"Apparatus requirements in the average primary schools are quite large, but most items can either be bought fairly cheaply or made locally. It is advisable that the apparatus is carefully stored to reduce cost of maintenance" (p 7).*

Eventually, the inclusion of physical education among core subjects in the first and second cycle schools in the country calls for the need for sporting equipment and apparatus in order to enable individual schools and students have those equipment that are needed to make learning meaningful and beneficial. Whilst there is the need for apparatus for effective teaching, most of these can be successfully purchased cheaply.

Similarly, many items can be improvised and so schools are encouraged to do so because of its educational values to students.

It is confirmed by Ayi-Bonte (1967), that apparatus making itself has an educational value in training the children to use their hands and heads. When the school themselves improvise their own equipment, they have the opportunity of fashioning them to suit school conditions, the taste of the children and the different stages of development

reached by the students. There is room for exploration and experimentation which in themselves are worthwhile educational pursuits. It is clear that most schools in the country are presently faced with the problem of supply and provision of pieces of apparatus for effective teaching of Physical Education. This as a problem, has gone a long way to affect quality of work in most schools, hence, the lack of considerable interest in Physical Education as a subject in first cycle schools. People throughout this country attribute this lack of interest to high cost of equipment.

To support this assertion, McGraw-Hill (1961) observed that, many items instructional materials needed for Physical Education, such as balls and nets are relatively expensive in comparison with those unusual furnished to other instructional departments. Others attribute this lack of interest to the inability of ministry of education to release enough funds for the purchasing of equipment.

Moyo (1967) opined that, from time to time the amount of money obtained from the ministry or from local sources is extremely inadequate to produce or purchase standardized or improvised equipment for the teaching of physical education in rural schools and that teachers tries to limit their purchases of equipment to any other way.In view of the problems mentioned earlier, teachers, both trained and untrained, can improvise pieces of sport equipment whose constructional cost can meet with the limited resources of the school.

According to Bucher and Koening (1974), when selecting side or other resources and materials, the teacher of Physical Education should consider certain principles these aids

effective and valuable. They further outline the principles guiding the construction of improvised pieces of apparatus as follows:

a. Materials should be carefully selected screened.
b. Proper preparation of materials should be made.
c. Materials should be presented to students in proper learning situations.
d. Care should be taken to avoid excessive expenses.
e. Records and evaluations of materials should be maintained. By following these principles, the teacher is able to supplement learning with materials that are valuable and interesting to students.
f. Many physical educationists all over the world have, in one way or the other, come out with procedures to guide teachers in the construction of pieces of improvised apparatus using local raw materials. Directing physical education teachers as to how best they can improvise simple balls.

Dunn (1998) said that:

> *"Balls may be quickly made for temporary use. A rope wound up and finished with a knot can be used for throwing and catching, for batting up, for dribbling along the ground. Other possibilities a ball of newspaper tied round with cotton reel. If a netball case is available, but no bladder, the case can be stuffed with newspaper or other soft materials". (1998 :p 74)*

To further support the need for improvisation, Entwistle (1976) opines that:

> *"If various activities and games suggested in this handbook are to be carried out effectively, apparatus must be provided. The following is a list of the*

standard equipment which should, if possible be provided for physical education lesson: colored bands, skipping ropes, bean bags, balls, quits, hoops, nets, bats many of the above mentioned items can be successfully improvised and schools should be encouraged to be resourceful in this matter"(1976 :p 12).

For the improvisation of bean bags, they can be made by girls out of any strong materials and half filled with beans, small pebbles and paper, shells or the seeds from trees or plants. A convenient size is about five inches. Larger bags filled with sand or saw dust make useful basils but should not be used for throwing, as the sand is liable to get into the eyes

Investigations made on this topic, supported by the views of various authors clearly show that facilities and equipment are necessary tools for effective learning and teaching of physical education. Also, since there are not enough funds for the purchasing of equipment in various schools, there is the need for teachers and students to be resourceful. This can be done by improvising pieces of apparatus requirements of their schools, since the teachers, ability to improvise makes him the best out of the lot.

Finally, most people throughout the country attributes the lack of equipment in first cycle schools to improper are for the few existing ones. It is therefore, equally wise and necessary for teachers to protect the existing equipment by taking proper care of them because a bird in hand is worth a thousand in the bush.

Bucher and Irstee (2002), observed that in the physical education and sports instructional domain there is the need for all types of equipment and supplies like the balls, apparatus,

net and standard implements. These are needed for the conduct of individual and team sports as well as for the other physical activities (considering the increase number of enrolment and also increase in the number of sports participants). Materials and equipment for physical activity are vital to the health and safety of participants, especially considering the value derived from participation. It is therefore, of paramount importance that alternative methods of improvisation of equipment must be used to make sure that Physical Education and sports teachers have the requisite supply to execute quality programmes. The improvised equipment must be well constructed to meet the needs of the physical activities needed at a particular period in time. Such methods as renovating existing plants, retrofitting and converting structures and instituting multiple uses of present facilities are methods that will in no small measure see to the conduct of quality sporting programmes.

According to Umar, (2002), improvisation recognizes the possibilities of alternatives to teaching and learning. Improvisation is said to be an act of designing a replica of standard equipment to play the role it is designated for. It is also an act of using alternative resources to facilitate instructions for teaching whenever there is lack or specific first hand teaching materials. Improvisation develops skills in the cognitive, affective and psychomotor domain. It has become imperative in teaching and learning because the economic situation makes the cost of equipment very high amidst decreasing or near lack of purchasing power in most public institutions. Even if equipment are available, the increasing enrolment of pupils and students into schools and increasing number of sports participants amidst static or decreasing equipment still pose the problem of insufficiency of available equipment for teaching and learning purposes. Improvisation is the answer to

the problem associated with storage, repairs, replacement, replenishment of consumable components of commercially available materials and also a solution to the problem of intensive training of teachers and students who will use the equipment. The local resources can be remolded and used to satisfy the quest for knowledge in the schools therefore improvisation is also the adoptive ability of a resourceful teacher to produce equipment locally at low profile for teaching and learning processes.

Lawan (2005), agrees that local resources can be remolded and used to satisfy the quest for knowledge in the schools, improvisation is also the adaptive ability of resourceful teacher to produce facilities and equipment locally at low profile for teaching-learning process. Most of the factors on the analytical work and improvisation emphasize abilities, that is, aptitudes of people, which reckon on what they can do, particularly with their hands. An improviser is resourceful, innovative both in thoughts and results. Improvisation is also an element of creativity by use of local resources in our immediate environment to build, construct, or mold or make instructional teaching –learning materials that can assist in the smooth dissemination and transfer of knowledge from the teachers to pupils and students.

Coppen (1974) agreed that: the non-availability of teaching and learning materials now inevitably raises the question of improvisation for particular purposes. More germane to the future, is the possibility of integrating the use of several appropriate equipment in order to get maximum practicing effect. Besides, the amount and type of apparatus or equipment in a school will influence the extent to which a Physical Education programme can be effectively taught and learned, these equipment in question may be standardized or an improvised ones. While there is the need for apparatus or equipment for effective

teaching, most of these can be purchased fairly cheaply. Similarly, many items can be successfully improvised and so schools should be encouraged to be resourceful in this matter.

Similarly, Coward and Lane (1970), also argued that, much of the small equipment required can be made by the students themselves, and the teacher can either ask the students to collect the materials and make the equipment or apparatus or can arrange to do the collection and make them during school time either in Physical Education lessons or at their leisure time. This supports the reason why equipment can be built at very little or no cost to the school. The requirements are mainly the initiative, encouragement and supervision of the teacher, as well as the enthusiasm and hard work of the creative students.

In the opinion of McGraw-Hill, (1961), agreed that planning of Physical Education teaching is never complete without a considerable consideration of equipment, and other materials. As part of his preparation, the teacher must familiarize him or herself with the physical limitations of the local situation, anticipate programme needs in terms of space and instructional materials and arrange for the use of needed building, ground spaceand equipment.

The free approach method of teaching Physical Education emphasizes on maximum individual activity which in turn, aims at promoting useful skills and techniques. This calls for the need for the provision of large varieties of small equipment for the first cycle schools throughout the country. But since there are not enough funds to meet the equipment requirements of these schools, there is therefore the need for teachers and students to be resourceful.

Ayi-Bonte (1968) supported the need for improvisation thus wrote about the limited resources of most schools and the need for improvisation to meet their equipment requirements said: funds for expendable equipment in schools are not adequate to meet this extra need. Even if they were, it would still not be necessary to spend large sums of money on equipment. Most of them can be made locally and in most cases by the students themselves, at a little or no cost.

In support of the need to improvise pieces of equipment to meet the equipment requirement of various schools, Coward and Lane (1970)observed that equipment requirement in the average primary school are quite large, but most items can either be bought fairly cheaply or made locally. It is advisable that the equipment is carefully stored to reduce cost of maintenance, Eventually, the inclusion of Physical Education among core subjects in the first cycle schools in the country calls for the need for sporting equipment in order to enable individual schools and students have those equipment that are needed to make learning meaningful and beneficial. In the absence of standardized facilities and equipment there must be improvised ones to use in the teaching and learning.

Whilst there is the need for equipment for effective teaching, most of these can be successfully purchased cheaply. Similarly, many items can be improvised and so schools are encouraged to do so because of its educational value to students

Ayi-Bonte (1968) confirmed that equipment and making itself has an educational value in training the students to use their hands and heads. When the schools themselves improvise their own equipment, they have the opportunity of fashioning them to suit school conditions, the tastes of the students and the different stages of development

reached by the students. There is room for exploration and experimentation which in themselves are worthwhile educational pursuits.

It is clear that most schools in the country are presently faced with the problem of supply and provision of pieces of equipment for effective teaching of Physical Education .This as a problem, has gone a long way to affect the quality of work in most schools, hence, the lack of considerable interest in Physical Education as a subject in first cycle schools. People throughout this country attribute this lack of interest to high cost of equipment.

To support this assertion, McGraw-Hill (1961) observed that, many items of instructional materials needed for Physical Education, such as balls and nets are relatively expensive in comparison with those usually furnished to other instructional departments. Others attribute this lack of interest to the inability of Ministry of Education to release enough funds for the purchasing of equipment.

In the opinion of Essilfie (1976), on the above subject, the teacher in a developing country has to learn to improvise. His counterparts in a developed country have everything needed in the name of visual material literally offered him on a golden platter. It is also agrees that, a good teacher will improvise because the aim in the early stages is one piece of equipment for each person. Under normal circumstances, this would be beyond the budget of any school which has to support large classes, as is the case with the majority of public schools in Ghana. For the young novice sampling the event for the first time, an improvised shot made from plastic ball, filled with concrete, is ideal. However, some of the equipment can be constructed by the students themselves and local craftsmen under the supervision of the teacher.

2.4 Construction of Improvised Equipment

Talabi, (1998) and Olajide, (2007), see sports equipment as the physical structures constructed for the use of sports and are generally the immovable structures like pitches, swimming pools, courts, halls,etc. and that equipment have quality which makes learning or doing things easy or simple. These equipment are usually movable, less permanent objects, which serve as implements for the execution of physical activities such as discus throw, shot put, javelin throw, hammer etc.

Expensive equipment is quite unnecessary for the teaching of basic schools Physical Education practical lessons. Most of what is required can be made by a carpenter or by the students and the teachers. Equipment should be adequate enough to accommodate all the learners in a practical physical education lesson, it is important that the equipment should be in a good conditions. They should not pose any danger to the learners, as much as learners should be exposed to the same equipment. These are actually the tools to the success of task solution. The quality of the equipment should be the best available that can help produce maximum performance. Existing standard equipment are ideal. However, if they are improvised, they must as much as possible conform to the norms of the standard ones. The improvised equipment must go through testing and retesting to make sure they are;

1. Not faulty
2. Not dangerous
3. Valid and reliable for the tests for which they are meant.

Some of the readily available equipment which can be obtained either free of charge or at very cheap costs are stopwatches, beanbags, batons, stones, rubber balls, tape measures, and skittles. (Pufaa,2006: p 27).

Writing on the need to solicit the assistance of the students for the construction of improvised pieces of equipment at school, Bilbrough and Jones (1963), commented that: moreover, the thrill which young students experience when working or playing on this equipment is further justified for its provision. In addition, there is great opportunity for the exercise of initiative, enterprising and courage.

Besides, Coward and Lane (1970), further agreed that, much of the small equipment required can be improvised by the student themselves and the teacher can either ask students to collect the materials and make the equipment or can arrange to do the collecting and making during school time, in Physical Education or carpenter to make. Naturally, students or children like playing and can even play throughout the whole day without eating or getting tired. They like playing, handling, and touching objects for the sake of curiosity. Through these instincts in children, they explore and discover for themselves facts they would otherwise not have known.

Banjo (1961), has this to say: From the time the child learns to walk, and even before then, until he is old enough to go to school, he devotes almost all his time to play. Even when he is at school, practically all his spare time is spent in play. Some children are so fond of play that it is as much as their parents can do to make them stop playing long enough to eat their meals. As far as improvisation of equipment is concerned, there are a

lot of raw materials that can be obtained cheaply and easily. There are other raw materials like bamboo, seeds, canes, ropes, timber of various kinds that can be used.

2.5 Selecting of Materials for Improvisations

According to Bucher and Koenig (1974), when selecting materials or other resources and materials, the teacher of Physical Education should consider certain principles that will make utilization of this equipment effective and valuable. They further outline the principles guiding the construction of improvised pieces of equipment as follows:

1. Materials should be carefully selected and screened.
2. Proper preparation of equipment should be made.
3. Equipment should be presented to students in a proper learning situation.
4. Care should be taken to avoid excessive expenses.
5. Records and evaluation of materials should be maintained. By following these principles, the teacher is able to supplement learning with equipment that are valuable and interesting to students.

Many physical educationists all over the world have, in one way or the other, come out with procedures to guide teachers in the construction of pieces of improvised equipment using local raw materials. Directing Physical Education teachers as to how best they can improvise simple balls.

Dunn (1998)observed that, balls may be quickly made for temporary use. A rope wound up and finished with a knot can be used for throwing and catching for batting up, for dribbling along the ground. Other possibilities are: stockings rolled into a ball, a ball of newspaper tied round with cotton reel. If a netball case is available but no bladder, the case can be stuffed with newspaper or other soft material.

In addition to this, Entwistle (1976), agrees that, if various activities and games suggested in the physical education syllabus are to be taught effectively, then equipment must be provided. The following is a list of the standard equipment which should, if possible be provided for a Physical Education lesson: coloured bands, bean bags, balls, skittles, skipping ropes, quoits, hoops, mats, bats. Many of the above mentioned items can be successfully improvised and schools should be encouraged to be resourceful in this matter. In view of this bean bags can be made by students out of any strong material and half filled with beans, small pebbles and paper, shells or the seeds from trees or plants. A convenient size is about five inches. Larger bags filled with sand or saw dust make useful basis but should not be used for throwing, as the sand is liable to get into the eyes. Investigations made on this topic, supported by the views of various authors clearly show that equipment and facilities are necessary tools for effective teaching and learning of Physical Education.

2.6 **Funding of Improvised Equipment**

Also, since there are not enough funds for the purchasing of equipment in various schools, there is the need for teachers and students to be resourceful in the field of improvisation. This can be done by improvising these equipment using local raw materials to meet the equipment requirements of their schools, since the teachers' ability to improvise makes him the best out of the lot.

In his view Blege (1968), said it is common knowledge, too that these pieces of equipment are purchased from apparatus constructors. In the sports rooms or even in the classrooms there are no indications that the teachers are resourceful enough to construct

improvise equipment for the teaching and learning of practical Physical Education in the schools. Rather, the resourceful teacher is the one whose classroom walls are displayed with most recent students' works from the environment, made with local materials.

Lenel(1969), commenting on storage and care of equipment opines that, the more equipment a school possesses the better. It should be kept in one central stock and each teacher should have equal access. One teacher needs to be in charge to see that balls are stitched, stores kept tidy, and that some equipment is kept tidy, and that some equipment is kept tidy. Some schools have sports teacher who is in charge of these equipment and their allocation for use. This means, invariably, that each class has too little for effective teaching. Great care and co-operation among staff is vital even in the best equipped schools. If sufficient care is taken, then all equipment need not to be replaced each year and new types of equipment can be bought. It is therefore, equally wise and necessary for teachers to protect the existing equipment by taking proper care of them because a bird in hand is worth a thousand in the bush.

Ozigi (1977), emphasized the importance of improvisation equipment for successful implementation and achievement of good sports programme. It was therefore deduced that resourceful Physical Education teachers, coaches, learners and sports organizers can improvise sports equipment as follows;

1. Bamboo poles to construct goal post for various games, pole vault, high jump uprights, soccer poles, hockey and volleyball and handball goal posts.
2. Ropes with stripe of white cloth and the polythene bags for tennis, table tennis, volleyball and badminton nets.
3. Stones and materials or iron to make equipment such as discus and shot put

4. Sharpened planks, sticks, bamboo for javelin.
5. Plastic for making hockey ball and tennis ball.
6. Metal or aluminium for making poles baton for relay official stand.

The use of equipment play a very vital role in effective teaching and learning of Physical Education in the basic schools, where the nation's future sportsmen and women are tapped and groomed for sporting excellence. Equipment are grossly inadequate for the teaching of Physical Education in rural areas in the Sissala East District schools. The scientific nature of Physical Education makes the use of up-to-date equipment for practical education very important. The absence of this equipment in our schools is posing a great challenge to the teaching of the subject physical education. This absence of this equipment is not much of a problem as the attendant high cost of the ready- made ones on the market.

Odedeyi and Onifade (1998), contended that most schools do not even have what can be referred to as the minimum standard of equipment. The problem of equipment and is of two folds: one is that some schools have spaces which are not developed while some, especially in cities and undulating lowlands do not even have space for the construction of facilities. Yet in some other schools, playing spaces are converted to more classrooms. The consequences of all these is that the practical activities domain of Physical Education are not taught, hence the objectives of Basic Education Sector Improvement Programme in Ghana to a extent cannot be realized, with regards to Physical Education. The administrative support needed in this direction is that the basic school teachers should become creative and have a high sense of initiative in improvising for equipment.

Graham, Shirley and Melissa (2001) also emphasizes that, some teachers are masters of improvisation, but others can't function without adequate equipment. The teaching skills acquired during student teaching, when equipment, were ideal, often must be adapted to less desirable conditions. (2001: p67).

2.7 Equipment that can be Improvised

Below are some types and uses of equipment that can be improvised

2.7.0 Beam bags

They can be made from strong and thick materials made from cotton, silk or nylon. The size of the bag should be about nine centimeters 9 by 12.7 centimeters. It must be noted that colourplays very important role in designing improvised equipment in teaching of children. It is therefore important to make bean bags in many different colours. The bags should be filled with the seeds of flamboyant. It is not advisable to used saw dust or sand in filling the bags because it is not good enough. It therefore not recommended, others hard seeds can be of course be used.

Some suitable activities that can be done with bean bags are:

- Tossing it up and catching.
- Throwing and catching in twos.
- Throwing for distance in length or height.
- Throwing into a basket or aiming at targets.
- Balancing on one foot to hop forward with the bean bag well placed on the free foot.
- Interception in pairs such as two or in threes.

- Standing with the bean bag between the feet and tossing it up from behind to catch with either one or both hands.
- Standing astride in pairs with back to back, bend the trunk to pass the bean bag between the legs and stretch up to pass it above the head.
- Lying on the back with the bean bag between the feet, and later lifting the legs slowly to swing them through to drop the bean bag on the ground and head.
- High skip jumping from side to side over the bean bag.

2.7.1 Batons for Relay Races

Batons can be made from wood, cane, bamboo, rolled cardboard. The baton should be one foot long, round and smooth and big enough to fit into the student's hand. The exact circumference of the relay baton is 12.1 centimeters. Children always enjoy relay races, and so it follows therefore that batons of the correct size should be made available for them to use.

The following useful skills can be taught with batons:

- The right way to hold the baton.
- How to run with the baton.
- The techniques of handing over the baton.
- Receiving the baton and transferring it from the receiving hand to the other hand.

Six to eight athletes or students can take positions at equal distances from each other, round the oval or playing field. Posts can be used or lines drawn on the ground to mark their positions. The first runner starts with the baton on their left hand. As soon as the runner has left the starting point; a new runner or athlete enters and takes his or her

position to complete the endless relay. The rest of the class or of the team stand by and enter the relay as substitute when a runner gives the signal for substitution.

2.7.2 Skittles.

They can be made from scraps of wood and may be cylindrical or conical in shape. The height should be between 35 to 52.5 centimeters. Bamboo and other hollow tin skittles can be used but could be filled with sand to blocked and give it weight to stand. Bottles used for skittles can be dangerous and be avoided. Skittles can be conveniently used to mark out play areas. They can also be used:

- For the game of skittles ball or tower ball.
- For throwing at targets and aiming at skittles
- As obstacles for ball dribbling activities.
- For jumping activities of various kinds in which case skittles of various heights are useful.

2.8 Safety Measures of Improvised Equipment

Kokuma (1970) concludes that, the safety of the students is so important that improvised equipment used in Physical Education lessons must be so designed to ensure the safety of the students. Frequent occurances of accidents in the use of improvised equipment can be minimized if the following are strictly adhered to:

1. The Physical Education teacher should cultivate the habit of checking and examining thoroughly all pieces of apparatus before students set to work on them, especially the fixed ones.

2. None of the apparatus should take more than it can support, otherwise it poses danger to users.
3. The Physical Education teacher should give definite instructions to students as regards the proper use of pieces of equipment
4. On no occasion should vaulting equipment be used without proper support. The teacher should teach students how to offer correct supports to prevent accidents.

It is in the light of this that Kokuma (1970), agreed that, the case against lack of equipment in the school should not only be attributed to lack of funds but also to the inability of teachers to improvise. Simple equipment could be improvised by the teacher to enrich the equipment bank of the school. Skip ropes, beanbags, quoit and if possible weights and bar-bells are simple and handy equipment that the teacher should not find difficulty to construct.

It is with a similar consideration that Mensah (1973) observes that funds for expendable equipment in schools are not adequate to meet the demand. However, most of the equipment used such as table tennis bats, netball posts and hockey-sticks could be made locally and in most cases by the children themselves at little or no cost.

CHAPTER THREE

METHODOLOGY

The purpose of this research is to examine the influence or impact of improvised equipment for the teaching of Physical Education in Basic schools in the rural areas in the Sissala East District in the Upper West Region. As a means of having a valid project the writer found it expedient to contact Headmasters and classroom teachers for information. This chapter will be discussed under the following sub-headings;

1. Research Design
2. Population
3. Sample and sampling procedure
3. Instrumentation
4. Procedure for Collection Data
5. Procedure for Analysis Data
6. Validity and Reliability of Instrument

The research is descriptive designed to assess and evaluate the impact of improvised equipment over the standardized equipment in the teaching of Physical Education in the basic schools in two Circuits in the Sissala East through questionnaires for heads and teachers, interviews and observation of some teachers during practical lessons.

3.0 Population

The Sissala East District Education Directorate has five(5) Circuits with a total of ninety-one(91) schools comprising forty-six (46) Primary and forty-five (45) Junior High

Schools. These schools together have a total population of two thousand and eighteen(2018) students. The Circuits under study, Nabulo and Wallembelle have eighteen(18) and seventeen(17) schools respectively. Headmasters and classroom teachers of twenty-five(25) schools of these schools constitute the targeted population for the study. All these schools under review are situated in mostly rural environments with almost same opportunities and challenges.

3.1 Sample and Sampling Technique

The headmasters and classroom teachers were selected from some schools within the two Circuits for the study. The simple random sampling technique was used in selecting twelve (12) schools in the Nabulo Circuit and thirteen (13) schools from Wallembelle Circuit within the Sissala East District. Each Circuit has at least fifteen (15) Primary and Junior High School (JHS). The participants for the study were however selected using the purposive sampling technique. The sample was limited to the Headmasters and the classroom teachers in the selected schools.

3.2 Instrumentation

The instruments used to gather data were questionnaires, interview and observation procedures. The interviews were designed for the Headmasters and the classroom teachers of the educational circuits. The questions for the interviews were intended to find out whether the teaching of physical education is coupled with the use of improvised equipment in the absence of the standardized equipment.

a. Questionnaire

The questionnaire for the Headmasters and the classroom teachers comprised of self-structured close-ended questions that entailed selecting appropriate responses to the questions in their opinion. In all, twenty-five (25) questions were structured for both the Headmasters and the classroom teachers.

Specifically for the Headmasters' questions were based on the role and involvement of heads of schools in the improvisation of equipment for the teaching of Physical Education, the utilization of the capitation grants to support the improvisation of locally improvised equipment for the teaching of Physical Education in their schools, and the provision of equipment by heads for schools for the teaching of Physical Education.

The questionnaire to the headmasters and classroom teachers were distributed personally accompanied by an introductory letter from the District Director of Education. The interview was done on face-to-face basis. One teacher assisted in the distribution and collection of the questionnaire.

b. Observation

Five classroom teachers, one from each Circuit of the selected schools, were observed during the teaching of practical Physical Education lessons. Note was taken of the kind of equipment that were used and inspected to ascertain their quality. The quantity of equipment were also observed as well as the nature of the facilities in which teaching was conducted.

Observations were also made on teachers who taught the practical lessons. The researcher observed some teachers who sent students out for practical Physical Education lessons.

The aim of the observation was to identify the difficulties faced by these teachers during the practice lessons as a result of inadequate teaching materials.

C. Interview

Interviews were conducted on the sampled Headmasters and classroom teachers in the Nabulo and the Wallembelle Circuits in the Sissala East District. The researcher personally interviewed the Headmasters and classroom teachers.

3.4 **Validity and Reliability of Instrument**

Questions for the structured interviewed and the questionnaire were constructed and face-validated by professional colleagues.

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3.5 Procedure for Data Collection

While the researcher personally interviewed the heads, notes were taken on the type of equipment and facilities nature in the schools and five (5) classroom teachers in both Circuits. The researcher was assisted by a teacher in the Circuit for the distribution of questionnaires to the Headmasters and the classroom teachers. A letter of introduction was attached to the questionnaire. The guidelines as to how to answer the questions were indicated on the questionnaires. Further explanations were given to elicit the required responses.

3.6 Procedure for Data Analysis

The data obtained from the research were analyzed in percentages with tables showing responses from the headmasters and the classroom teachers involved in the study. The questionnaire was analyzed sequentially and separately depending on the demand of each question. Data from the interviews were analyzed qualitatively, interpreted and linked with quantitative data obtained from the questionnaire especially. The data gathered were analyzed using frequency and percentages.

CHAPTER FOUR

RESULT, FINDINGS AND DISCUSSION

4.0 Introduction

This chapter seeks to analyze and discuss data collected from the field in response to the study conducted on improvisation of equipment of the teaching of Physical Education at Basic Schools in the Sissala East District in the Upper West Region of Ghana. The respondents were the headmasters and classroom teachers in the two Circuits. The findings and discussions are based on the following research theme:

Table 1: Gender Distribution of Sample

Variable	Frequency	Percentage
Male	16	64
Female	9	36

The table above shows the distribution of gender in the circuit sixteen (16) respondents representing (64%) and nine (9) respondents representing (36%) constitutes the male and the female gender respectively.

Table 2: Status of Participants.

Variable	Frequency	Percentage
Headmaster	7	28
Classroom teacher	18	72

Analysis above indicates that seven (7) of the respondents were headmasters while seven-two percent (72%) represents classroom teachers in the Circuits.

Table 3: Number of years served by Participants in the Circuit

No of years	Frequency	Percentage
1-5years	19	76
6-10years	5	20
11-15years	1	4
Totals	25	100

The table above shows that nineteen (19) classroom teachers, representing seventy-six (76%) percent of headmasters and classroom teachers in both Circuits have been teaching from between one to five years. These agreed that the teaching of Physical Education was not the best due to lack of inadequate equipment for the teaching of the subject. Also five (5) teachers, representing twenty percent (20%) who taught in both Circuits strongly agreed that the absence of equipment actually affect the teaching of practical Physical Education in the two circuits. The remaining classroom teachers who represent four percent (4%) of participants taught between eleven (11) years and fifteen (15) years agreed to that fact. On the question whether physical education is taught in the schools, all the respondents agreed that physical education is been taught in the schools.

Table 4: Availability of Improvised Equipment and in the Circuits.

Circuit	Frequency	Percentage
Head masters	3	12
Classroom teachers	9	36
Total	**12**	**48**

Analysis above indicates that three (3) headmasters and nine (9) classroom teachers disagreed that there was lack of adequate improvised equipment for teaching which constitutes 48% of respondents. The rest, constituting the majority of 52% of respondents, agreed that there was lack of improvised equipment which greatly hinder the teaching and learning processes in physical education.

On answering the question, which activity do they teach during physical education lessons in the Circuits, all respondents in the Circuits agreed that they teach soccer in physical education practical lessons in all schools in the District. Also, on the question why don't they teach the other activities, the respondents unanimously agreed that there was lack of equipment for the teaching the others activities in the Circuits.

Table 5: Factors that Necessitate Improvisation of Equipment for the Teaching of Physical Education.

S/NO	Items	Yes	%	No	%
1	Would improvisation help in the teaching and learning of physical education?	24	96	1	4
2	Would improvisation give enough opportunity to learners to practice?	25	100	0	0
3	Do improvised equipment help in the effective teaching of skills?	23	92	2	8
4	Does improvisation save cost on school budget?	23	92	2	8

In the Table above, while it is evident that all respondents agreed that improvisation creates enough opportunity for learners to practice skills, in other cases, there were a few dissenting voices who still felt that improvised equipment do not aid effective teaching of skills and should not be considered as a cost-saving mechanism.

Table 6: Who Produce the Improvised Equipment in the Circuits?

Variable	Frequency	Percentages
Teachers	5	20
Students	7	35
Carpenters	13	65
Total	25	100

Analysis above indicated that thirteen (13) respondents, representing sixty-five percent (65%), produce improvised equipment in the Circuits, while seven (7)student respondents produce improvised equipment for the teaching and learning of physical education in the District.

Table 7: Availability of Standardized Equipment for Teaching Physical Education

Variable	Frequency	Percentages
Strongly agree	2	8
Agree	4	16
Undecided	2	8
Disagreed	17	68
Strongly disagreed	0	0
Total	25	100

To the question whether there are available equipment for the teaching of physical education in the basic schools, two (2) respondents representing eight percent (8%) strongly agreed that there are enough equipment for the teaching of Physical Education in their schools. An overwhelming majority of respondents (68%) disagreed that there was enough equipment in schools in the District to effectively facilitate the teaching of Physical Education.

Table 8: Participants' Responses on the Need for Improvisation.

Value	Frequency	Percentage
Head masters	6	50
Classroom teachers	I3	100

Table 8 above shows the number of respondents who agree to the need for improvisation of equipment for the teaching of Physical Education. Six (6) respondents (half of the number of headmasters)while all thirteen (13) classroom teachers agreed that improvisation of sport equipment are a necessary prerequisite for teaching Physical Education in the face of dwindling finances of most schools in the Circuits.

On the Analysis on standardized equipment that can be improvised by teachers in the Circuits, all respondents in the Circuit agreed that some sports equipment and can be improvised by teachers to facilitate teaching and learning of Physical Education. Almost all participants (91%) agreed that majority of schools do not improvise equipment while the rest (9%) said the schools do improvise some equipment to enhance the teaching and learning of physical education.

On how the materials for improvisation are acquired, twenty (20) respondents (87%) said most of the materials used for improvisation are brought to the school by the pupils when requested to do so while three (3) respondents (13%) said that the materials are usually gotten from members of the community. All the respondents said that the pupils enjoy working with the improvised equipment and mentioned, high jump stands, goal posts,

netball stands, volleyball nets and goal nets as some of the equipment that could be easily improvised in the area. Ninety-two percent (92%) acknowledged that there was insufficient equipment for teaching Physical Education in the schools while the rest of the respondents 8% claimed that their schools have sufficient equipment for teaching the subject and that most of the equipment and facilities were gotten through improvisation. Thirty-three percent of the headmasters agreed that their schools had sufficient equipment for teaching physical education, a claim denied by classroom teachers (67%) who said they mostly use improvised equipment in their schools rather than standardized ones.

Table9: How Improvised Equipment Affect the Teaching of Physical Education

Variable	Frequency	Percentage
Strongly agreed	2	8
Agreed	9	36
Strongly disagreed	12	48
Disagreed	2	8

Analysis above indicate that twelve (12) of the respondents (48%) strongly agreed that improvised equipment affect the teaching of Physical Education, while thirty-six (36) respondents agreed that improvised equipment affect the teaching of Physical Education in the District

Table 10: Students' Interest in the Use of Improvised Equipment for the Teaching of Physical Education

Variable	Frequency	Percentage
Strongly agreed	19	76
Agreed	4	16
Strongly disagreed	1	4
Disagreed	1	4

The table above indicates that seven-six percent (76%) of respondents strongly agreed that they are interested in improvised equipment and facilities for the teaching and learning of skills in practical Physical Education lessons. Also, on the comparison of improvised equipment with standardized ones all respondents strongly agreed that the use of standardized equipment have the same importance in the teaching and learning of physical education activities in the District

All but one respondent, representing ninety-six percent (96%) confirmed that improvisation helps to show-case the environmental potentials of a particular location. All the respondents as well agreed that improvisation gives opportunities to explore the environment. Majority of respondents (84%)agreed that waste plastic, rubber, wood, waste metals, and leather from hide and skin are local materials that could be used for improvisation of sport equipment.

4.2 Discussions

From the above analysis, improvisation of equipment plays a very important role in the teaching of Physical Education in rural schools especially in the Sissala East District. While there was the need for improvised equipment for the teaching of Physical Education their availability was a necessary prerequisite for teaching Physical Education in the face of dwindling finances of most schools in the Circuits. Considering that a significant number of the teachers (76%) have not been teaching in the Circuits for more than five (5) years, they probably have not explored avenues for improvisation. Their headmasters will therefore need to encourage and provide the needed guidance and support to reduce the financial burden of the procurement of most sports equipment by encouraging teachers to improvise when necessary.

Respondents were unanimous in their recommendation for the improvisation of sports and games equipment and facilities because that practice will greatly assist in the acquisition of sports skills. Also, all except one respondent agreed that improvisation of equipment was necessary because it helps in the teaching of Physical Education and will improve the quality of learning in the absence of standardized equipment and adequate financial resources.

These findings agree with Johnson (1999), and Tikon (2006), who found out that improvisation reveals that there are possibilities or alternatives to teaching and learning by using improvised equipment for the teaching because it is merely an act of designing a replica of standard equipment to play the role designated for the equipment. It is an act of using alternative resources to facilitate instructions for teaching wherever there is lack or

shortage of specific firsthand teaching equipment considering the increasing number of enrolment in the school. These findings correlate with the assertion of Lawan (2005), who stated that the qualities of improvisation-talents include creativity or resourcefulness and rich imagination that are transformable into realities. Table 8 shows a number of equipment and facilities that can be improvised in other to promote teaching and learning of Physical Education. Four (4) headmasters in the Wallembelle Circuit agreed that balls, hockey-sticks, javelin-sticks, shot-puts, uprights for goal posts and high jump as well as bean-bags amongst others can be improvised to facilitate teaching and learning. Eight (8) classroom teachers were of the view that many of the equipment and facilities can be improvised to teach the Physical Education. In Nabulo Circuit for instance, four (4) headmasters and nine (9) teachers agreed to this assertion.

All respondents unanimously agreed that improvisation is the answer to the constant lack or inadequate availability of equipment in schools in the Wallembelle and Nabulo Circuits in the Sissala East District of the Upper West Region. This supports the opinion of Bucher and Krotee (2002) that, in the Physical Education and sports instructional domain, all types of equipment are needed for the conduct of individual and team sports as well as for the other physical activities especially considering the increase in number of enrolment and also increase in the number of sports participants. This is also supported by Lawan (2005), who opines that local resources can be remolded and used to satisfy the quest for knowledge in the schools stating further that improvisation is also the adaptive ability of a resourceful teacher to produce facilities and equipment locally at low profile for the teaching-learning process. Data gathered indicate that alternative methods of

improvisation must be used to see that Physical Education and sports programmes are managed and taught effectively.

Concerning the contribution of the environment to improvisation of equipment in the teaching of Physical Education in the two Circuits, all but one respondents confirm that improvisation helps to show-case the environmental potentials of a particular location therefore improvisation gives opportunities to explore the environment. On the issue of availability of equipment in the two Circuits several respondents denied the existence of improvised equipment in the schools to make teaching and learning of Physical Education more effective and attractive. It can be concluded that in the teaching and learning of Physical Education, the teacher ought to play a very important roles in exhibiting resourcefulness by improvising the needed equipment for the teaching and learning process.

Majority of respondents agreed that waste plastic, rubber, wood and rubber from grown forest, waste metals, and leather from hide and skin are local materials that could be used for improvisation of equipment. These findings correlate with the assertion of Lawan (2005) who stated that the qualities of improvisation-talents include creativity or resourcefulness and rich imagination that local resource can be remolded and used to satisfy the quest for knowledge in the school and that improvisation is the adoptive ability of a resourceful teacher to produce equipment locally at low profile for teaching-Learning processes.

To the question whether the use of improvised equipment affects the teaching of Physical Education in the Circuits, majority of respondents (56%) strongly disagreed with this

assertion but forty-four (44%) respondents were of the opinion that the use of improvised equipment has a beneficial effect on the teaching of Physical Education in the District

Analysis of students' interest in using improvised equipment for learning of Physical Education indicate that majority of respondents showed a strong agreement with the use of improvised equipment for learning purposes. Also it was revealed from the results that there was no difference in terms of performance of students who use improvised equipment in learning skills during physical education lessons. Participants unanimously agreed that improvisation of equipment is necessary because of the increasing numbers of students and sports participants and the weak financial position of almost all educational institutions at the Basic Schools level. They acknowledge that several of physical education equipment are easy to improvise. Also, respondents agreed that there are available local materials for making attractive, aesthetically pleasing and safe equipment for teaching and learning purposes.

The study identified the type of improvised facilities and equipment used in the teaching of Physical Education in the Sissala East District especially Wallembelle and Nabulo Circuits which were classified as substitute, constructive or innovative ones as follows: socks-balls, measured sticks as batons, ropes for volleyball nets, fresh wood for goal post and high jump uprights amongst others.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

The research is intended to examine the influence of improvised equipment for the teaching of Physical Education in Basic Schools in the Sissala East District in the Upper West Region.

5.0 Summary

The availability of standardized equipment and for the teaching of physical education, in Basic Schools is a challenging task for teachers and headmasters. This is even more pronounced in the Sissala East District.

The current study revealed that school headmasters did not provide their teachers with equipment for the teaching of Physical Education because of financial challenges. Therefore, in the midst of lack of standardized equipment especially, improvisation of some needed equipment using local resources was the only alternative available to classroom teachers. While some equipment can be provided using available raw material in some Districts in Ghana, in the two Circuits under review, while most teachers support the need for improvisation, they do not possess the technical skills to produce replica of the standardized equipment using local materials.

Respondents observed that improvised equipment had almost the same effects as standardized equipment. Therefore, there should be a cooperation relationship between the Ministry of Education and The Ghana Education Service and classroom teachers by equipping the latter with the technological skills to be able to produce through improvisation of equipment using local materials. It was realized that replica of some of

the standardized equipment can be produced with very limited financial resources using materials resources from the natural environment such as wood, seeds, and fibre from some plants as well as discarded vehicle tyres, plastic balls, cement and stones and clothing materials.

The study revealed that, improvisation was necessary because it helps in promoting the teaching of physical education and this will improve the quality of skills learning in the absence of standardized equipment in the two Circuits. This in no way absolves headmasters from making the effort to raise funds to secure standardized equipment. In improvising physical education equipment some waste plastic, polythene, wood, leather from hide and skin which are abundant in the District could be used for improvisation of equipment to reduce the public's wanton discarding of such material causing environmental hazards.

The analysis indicates that student respondents showed interest in the use of improvised equipment for the learning of skills in practical physical education lessons. It further revealed from the results that, using improvised equipment reduces the schools' huge budget on sports and the mass production of improvised equipment allows students to have enough time to practice skills adequately during physical education lessons.

5.1 **Conclusion**

Improvisation is very necessary because of the growing number of enrolment of students in schools. It is also necessary to promote improvisation among teachers because the improvised equipment enhances the teaching of physical education in the District. The necessity for introducing improvised equipment is bolstered by the inadequate supply of

standardized equipment for teaching purposes. The lack of standardized equipment reduces the engagement time and the process of skill acquisition.

Ultimately the improvisation of equipment gives room for students' participation in the teaching-learning process because they participate in the improvisation process and learn other life skills as well. Therefore improvisation of equipment gives room for students' participation in the teaching-learning experiences, thereby making learning more effective and interesting. The environment is full of local resources that can be explored, these local materials can be remolded and use to satisfy the quest for knowledge through the adoptive ability of a resourceful teacher to produce equipment and facilities at low cost for teaching-learning processes. It appears that the use of standardized equipment and facilities have the same importance in the teaching and learning of physical education.

It appears most teachers assigned to teach Physical Education had no knowledge on improvisation of equipment. It is expected that the research will help school headmasters and classroom teachers understand the importance of improvisation in the face of dwindling financial resources available for the teaching of Physical Education in rural schools in the Sissala East District.

5.3 Recommendations

The writer having critically analyzed the data gathered on the topic, deems it necessary to give some recommendations aimed at improving the teaching of Physical Education in the rural areas in the Sissala East District of the Upper West Region that:

1. Teachers and coaches in the field of education and sports should encourage the skills of improvisation using local resources available in their environment to produce low profile equipment for teaching purposes.
2. Training and re-training programmes should be conducted at basis for teachers to facilitate improvement in the culture of improvisation and effective utilization of improvised equipment in the system.
3. Portable sets of improvised pieces of equipment must be exhibited by schools, individuals and organizations during sports festivals so that teachers can learn from each other about improvised equipment production methods.
4. Classroom teachers should be encouraged to improvise the simple Physical Education equipment and facilities necessary for effective teaching of the subject especially those in rural areas.

In rural environments improvised equipment will inspire students to participate in Physical activities and programmes in their schools as they will be the creators of some of the improvised equipment. This will enhance the learning of skills and improve on their health and fitness levels.

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APPENDIX 1

UNIVERSITY OF EDUCATION, WINNEBA. DEPARTMENT OF HEALTH PHYSICAL EDUCATION, RECREATION AND SPORTS.

Dear Respondent,

I am carrying out an academic research on improvisation of equipment in the teaching of physical education at the rural Basic Schools in the Sissala East District. It is for this purpose that you have been selected to respond in the research by answering this questionnaire. It would be very useful if you help by answering the questions as per instruction at the beginning of the section.

You are required to choose the better option to each in your opinion. Indeed, your responses would be kept confidential as in the wage of the question being anonymous.

Thank you

Yours faithfully

Physical Education Researcher

APPENDIX II

QUESTIONNAIRE

DEPARTMENT OF HEALTH, PHYSICAL EDUCATION, RECREATION AND SPORTS, UNIVERSITY OF EDUCATION, WINNEBA

The researcher is a graduate student in the Department of Health, Physical Education, Recreation and Sports of the University of Education, Winneba. He is conducting a research on the improvisation of sports equipment for teaching and learning purposes in Physical Education at rural Basic Schools in the Sissala East District in the Upper West Region as a partial fulfillment for the award of M.Ed degree in Physical Education.

The questionnaire is meant for classroom teachers and headmasters of basic schools in Wallembelle and Nabulo Circuits. You are kindly requested to respond as candidly as possible and you have a firm assurance from me that your responses will be kept strictly confidential.

SECTION A: DEMOGRAPHIC INFORMATION

Please tick (√) the option, or against the statement that is most appropriate to you.

1. Gender
    a. Male ( )
    b. Female ( )
2. Teaching Position
    a. Headmaster ( )
    b. Classroom Teacher ( )

3. Which Circuit is your school located

   Nabulo Circuit ( )

   Wallembelle Circuit ( )

4. Teaching Experience

   a. 1-5 years( )

   b. 6-10 years ( )

   c. 11-15 years ( )

   d. 16-20 years ( )

   e. 21 and above ( )

5. Is Physical Education taught in your school?

   a. Yes b. No

   If no why don't you teach it?

6 Why don't you teach it? (select that which apply)

   ( ) Lack of equipment

   ( ) Lack of interest on the part of the teacher

   ( ) The activities are injurious.

SECTION B: Please tick the option against the statement that is most appropriate to you.

7 What activities do you teach during Physical Education lessons?

   a. Netball b. Soccer c. Gymnastics d. Table tennis e. Volley ball f. Athletics g. Other.

8 If equipment are lacking, what in your view is the reason for the non-availability of sport equipment in your school?

a. Lack of funds to purchase them

b. Lack of human capital to produce them.

c. Lack of interest in acquiring them

9 Do you think it is necessary to improvise pieces of equipment in first cycle schools?

a. YES b. NO.

10 Who assists in the construction of improvised equipment for use in your school?

a. Carpenters

b. Students

c. Teachers

Complete the statements below (11-17) by selecting the column most appropriate to your observation: Strongly agreed (SA), Agreed (A), Disagreed (D), Strongly Disagreed (SD).

NO	ITEM	SA	A	D	SD
11	There are equipment for teaching practical P. E in your school.				
12	Improvisation show-case, the environmental potentials of the District				
13	Improvisation saves cost in my school				
14	Improvised equipment and facilities are preferred over standardized ones				
15	Improvised equipment promote teaching in PE.				
16	Students show interest in improvised equipment.				

Please tick the option against the statement that is most appropriate to you.

S/NO	Items	Yes	%	No	%
17	Would improvisation help in the teaching and learning of physical education?				
18	Would improvisation give enough opportunity to learners to practice?				
19	Do improvised equipment help in the effective teaching of skills?				

APPENDIX 111

Interview questions.

1. How long have you been teaching?
2. Are you a class or subject teacher?
3. Have you been teaching physical education?
4. Which disciplines do you teach during physical education lesson
5. Do you teach the lesson with equipment?
6. Are the equipment standardized or improvised ones?
7. Are the equipment enough for the teaching of physical education?
8. Do you improvise equipment for the teaching of physical education?
9. Who produce the improvised equipment?
10. Did the students have interest in the improvised equipment?
11. Is there difference in the use of the standardized and improvised equipment?