



COLLEGE OF NATURAL SCIENCES  
DEPARTMENT OF SPORT SCIENCE

COMPARATIVE STUDY ON THE AVILABILTY AND UTILIZATION OF PHYSICAL  
EDUCATION PRACTICAL CLASS BETWEEN PRIVATE AND PUBLIC SECONDARY  
SCHOOLS OF JIMMA TOWN.

BY: MESERET BEYENE

ARESEARCH REPORT SUBMITTED TOJIMMA UNIVERSITY COLLEGE OF  
NATURALDEPARTMENT OF SPORT SCIENCEFOR PARITAL FULLFILMENT OF THE  
MASTERS OF EDUCATION IN TEACHING PHYSICAL EDUCATION

NOVEMBER, 2018

JIMMA, ETHIOPIA

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## **Acknowledgements**

First, I would like to express my sincere gratitude to my research advisor Samson Wondirad (Asst.Prof) and my co-advisor Tasfaye Da.mena (Asst.Prof) for their valuable professional assistance, constructive comments, and unreserved guidance they had given me throughout the course of the study.

I would like to extend my acknowledgement to principals, students and PE teachers of Jiren, Ababuna, Seto, and Eldan, Abifum and Catholic secondary schools for they provided me their valuable responses for this study, my families and those who helped me during my study in the university is also in one another.

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## **Abstract**

*The main objective of this study was to identify the availability and utilization of PE material between Jire secondary schools, Seto secondary schools and Aba Buna secondary schools were taken from the government secondary schools side and Abifum secondary schools, Eldan secondary schools and Catholic secondary schools were taken from the private secondary schools side . To achieve the intended objectives of this study descriptive research method was used with quantitative and qualitative approaches. In this approach quantitative data were collected from sample respondents through five scale likerted close-ended questionnaire, in the qualitative approach qualitative data were collected from physical education teacher. The collected data were analyzed by descriptive statistical like frequencies, percentages, mean, standard deviation, t-test and inferential statistics particularly Pearson correlation was used to give meaningful conclusions for the result of this study. On the basis of the analysis made of this study the findings of this study were identified. Therefore, the findings of this study were: the instructional materials for practical physical education that were available in the public secondary schools were very few foot balls, basket ball, hand ball and volleyballs and the availability of football, basket ball, hand ball and volleyball in the private were better than the public secondary schools, The private secondary schools were that properly utilized physical education instructional materials more over there was significant difference between the government and private secondary schools in the availability of instructional materials, its utilization in teaching the practical class in physical education and the availability and utilizations of instructional materials in the private and the government secondary schools were not equal. Finally, recommendations, summary, conclusions were given on the basis of the above findings and are presented at the last part of this research content under chapter five.*



# CHAPTER ONE

## 1.1. Background of the study

Physical education is defined as a learning process designed to foster the development of motor skills, health related fitness, knowledge and attitudes relative to physical education through a series of carefully planned and conducted experiences (Chappell, 2001). The learning environment is thoughtfully structured with instructional materials for practical teaching to enhance the overall development of each student within the true learning domains: psychomotor, cognitive, and affective. These learning experiences help students understand how humans move and how to execute movements safely, efficiently, and effectively.

These experiences are conducted in such a way as to promote positive feelings towards oneself as a mover and an appreciation for the contribution that physical activity can make to one's quality of life (Wuest and Lombardo 2000).

Bailey (2006), state, "We believe that the designing of a curriculum, or a physical education program with enough instructional materials for practical teaching of physical education in the secondary, is a practical activity that is based upon a set of beliefs about the role of education in society, that theory and practice are inseparable". For this reason we need to go beyond "learning as cognitive" and "learning as motor" to promote an understanding and practice of learning as a social process and an understanding that knowledge and its status is accordingly socially constructed.

Richard (2008) argued that knowledge is expressed not only in words or symbols but also in actions. The practical form that knowledge can be represented in a instructional materials for practical physical education class by encouraging thinking within PE lessons, students are being encouraged to think ethically, use their problem solving and decision-making, inquiry and reflective skills through engaging themselves in practical of physical education . PE teaching through utilizing the instructional material that have been used to teaching practical sessions significantly contributes to human development. From a physical point of view, it endeavors to enhance the development of cognitive, physical, social, spiritual, mental and emotional skills by learning in, through and about movement.

Instructional materials are essential and significant tools needed for teaching and learning of school subjects to promote teachers' efficiency and improve students' performance. They make learning more interesting, practical, realistic and appealing. They also enable both the teachers and students to participate actively and effectively in lesson sessions. They give room for acquisition of skills and knowledge and development of self- confidence and self- actualization. Ibeneme (2000) defined teaching aids as those materials used for practical and demonstration in the class situation by students and teachers. Ikerionwu (2000) saw instructional materials as objects or devices that assist the teacher to present a lesson to the learners in a logical and manner.

Despite the fact that instructional materials are essential tools that can make learning practical and knowledge acquisition easier, they are not readily available in Nigerian secondary schools leading to low level of performance of learners in government examinations (Abdu-Raheem 2014).

The availability of adequate facilities, equipment and supplies instructional materials and its utilization as well as their utilization are important ingredients in any physical education and sports program. In recent times it has been observed that physical education and sports seems to be losing steam in almost all the secondary schools in Enugu State. This is being considered as part of the reason why the state has not been discovering new athletes and performing well in national sports festivals. This situation may likely persist if there are not adequate resources, especially instructional materials or if those available are not adequately utilized. The level of success of most physical education and sport program is greatly dependent on the degree of availability, adequacy and utilization of up to date facilities, equipment and supplies. This is because they form the hub around which such program revolves (Akinsanmi, 1995; Mgbor, 2005; Mgbor and Anyanjor, 2005).

Availability refers to services resources that can be obtained in the discharge of certain functions. Longman (2003) asserts that availability refers to resources ready to be used, able to be used or that can easily be found and used. Onyejiemezie (2002) noted that availability is a state of making provision for a satisfactory standard requirement in terms of teaching resource to enhance effective instructional activity in a particular subject. According to the author no meaningful learning or transfer of what has been learned to was take place if such learning occurs in a situation devoid of relevant activities and concrete experiences. In other words,

availability can be defined as human and material resources ready for use in teaching physical education. In recognition of the importance of availability of resources in teaching Olaitan, Igbo, Ekong,

Nwachukwu and Onyemaechi (1999) noted that no meaningful learning or transfer of what has been learned were take place if such learning occurs in a situation devoid of relevant materials and activities as well as concrete experiences. The importance of availability of resources cannot be over-emphasized in teaching of physical education in schools. The availability of resources instructional facilities, equipment and supplies as well as adequate personnel motivates the learners, increases the teacher's efficiency and promotes the productivity of the teacher.

Facilities, supplies and equipment provision are important aspect of physical education and sports program management.

There were the global perspectives in which the availability and use of instructional materials were confirmed through research. According to Feshbach (2006), the M.O.E and the culture in England and Israel employ school supervisors, construct class rooms and equip classrooms with a variety of IM that have been utilized in the physical education class room. In addition each school teacher is provided with a budget forthe purchase of IM for the utilization during the physical education class room. Groodland (2009) reports that some parts of USA adopted the IM and utilized for the physical education class room One common feature about the two was the need for abundant IM.

Cass (2007) conducted a research with 400 school teachers in London on their role inschools to provide the student with a live day where he can be living, learning and growing all the time. From the physical education school teachers' responses, they all agreed that the students' benefit, greatly from the active methods found in the student centered teaching methods through the utilization of the instructional materials. Teachers responded that students have the opportunity to develop at their own rate, gain confidence independence and prepared for all round development.

Usuala (2006) under took a study entitled, Education Technology in Africa .In hisstudy, he reiterated the effectiveness of IM in school in Africa. He also expressed the recognition of the importance of these instructional materials by a number of African countries. This led to the establishment of educational technology centers in a number of African countries.

Allen and Hart (2009) states that besides using touching materials the teacher must ensure that variety of the same are available in class for effective teaching and learning. They say that the materials and equipment presented in early childhood setting should be chosen to provide many and varied opportunities for learners to practice and master familiar skills through a variety of materials. Hainich (2010) further support the subject by saying that the primary function of a visual aids as a communication device is to serve as more concrete referent to meaning than spoken or written word. They therefore conclude that visual aid is more clearly and easily understood than verbal messages.

School handbook (2008) defines teachinglearning aids as available means or assets which contain required information for the learner. They spell out the functions of instructional resources in a preschool child as, Stimulation of Student to preserve and develop their culturalheritage and promotion of explanatory and discovery skills among students. They also play the role of facilitation of self-expression and creativity through experimenting with materials and promotion of self-discovery and identification of special gifts and talents. More so, they assist in meeting socio-emotional needs on student and making learning more exciting. Equally, they enhance visual and auditory perception through manipulation of various learning skills.

The previous study that had been conducted on the availability, adequacy and utilization of physical education teaching resources in public secondary schools in Enugu State in Nigeria had indicated that all the physical education facilities, equipment and supplies, only soccer field are adequate in the schools. Physical education equipment and supplies that are adequately utilized in the schools are soccer balls, volleyballs, relay batons, javelin, shot put, measuring tape and first aid box with the materials.

Astudy by Akinsanya(2010)to determine the differential distribution and Utilization of human resources on students'preformance in state owned and federal schools revealed that both material and human resources were practically inadequate and where they were adequate were note well utilization in those two type of schools.Further, the study also revealed that physical facilities like laboratories and libraries were inadequate which affected students. Performance,similarly,Oni(1995)said that availability and quality of materials facilitates smooth operations of any schools and there by enhancing effective teaching/ learning activity and when this is so, there is higher education attainment by students. Traditionally, research on disease

prevention has targeted individuals to effect behavioral changes .typicals approaches to encourage physical activity includes curriculum.

In the Ethiopian experience the previous study had been conducted on material resource utilization practices and challenges in Wollega University, 2017. Wollega University, Nekemte, Ethiopia, in Ethiopia, material resource management has attention during early years. For instance, the research conducted by Defaru, revealed that the utilization of educational material resource in Jimma, secondary Schools was poor and it needs improvement. Therefore, the need to conduct a search on this area also comes from the need for better management and utilization of material resources in an organization.

The above experiences that had gained from the previous studies at the global, continental and Ethiopian experiences motivated the researcher to conduct this current research on the availability of instructional materials and its utilization in the particular reference to the practical class of physical education in comparing the private and government secondary schools in the availability of instructional materials and its utilization in the physical education practical class of Jimma town.

## **1.2. Statement of the Problem**

Instructional materials are the tools used in educational lessons, which includes active learning and assessment. Basically, any resource a teacher uses to help him teach his students is an instructional material. There are many types of instructional materials, but let's look at some of the most common ones.

Isola (2010) also described instructional materials as objects or devices that assist the teachers to present their lessons logically and sequentially to the learners.Oluwagbohunmi and Abdu-Raheem (2014) acknowledged that instructional materials are such used by physical education teachers to aid explanations and make learning of subject matter understandable to students during teaching learning process of physical education in the practical session.

In addition, Ajayi and Ayodele (2001) stressed the importance of availability of instructional materials to achieving effectiveness in educational delivery and supervision in the school system. Ogbondah (2008) alerted on the gross inadequacy and underutilization of instructional materials necessary to compensate for the inadequacies of sense organs and to reinforce the capacity of

dominant organs in the practical teaching of physical education. He noted that school teachers have tried their possible best in the provision of locally made materials in substitution for the standard ones to promote their lessons in the practical teaching of physical education.

Akinleye (2010) attested that effective teaching and learning requires a physical education teacher to teach the students with instructional materials and use practical activities to make learning more vivid, logical, realistic and pragmatic. Esu, Enukeha and Umoren (2004) agreed that instructional materials are indispensable to the effective teaching and learning activities in the practical session of physical education. Ekpo (2004) also supported that teaching aids are always useful in supporting the sense organs.

Despite the fact that instructional materials are essential tools that can make learning practical and knowledge acquisition easier, they are not readily available in Nigerian secondary schools leading to low level of performance of learners in government examinations (Abdu-Raheem 2014).

Instructional materials are the tools used in educational lessons, which includes active learning and assessment. Basically, any resource a teacher uses to help him teach his students is an instructional material. There are many types of instructional materials, but let's look at some of the most common ones.

Secondary education is of paramount significance for individual as well as for national development. As such, it is an area of major concern in Ethiopia. Though secondary education, at present is a priority sector of education in the country.

One of the major things that can make the practical class in the teaching learning process of physical education is the availability of instructional materials and its utilizations. The availability of instructional materials and its utilization to teach the practical session has become a great concern for researchers over the years.

Lack of available and standard facilities and equipment hampers physical education program in many ways. According to Awosika (2009), it might be impossible to achieve satisfactory results from athletes whose training facilities and equipment are inadequate or of sub-standard.

In the practical experiences of the physical education teachers in Ethiopia, many points have been suggested in the educational conferences and workshops on the scarcity of physical education facilities, supplies and equipment could therefore constitute a big cognate in the

successful teaching of physical education in schools. Availability and utilization will be focused in this study particularly in the practical session of the physical education.

And at a time, when the National and the state, together, are focusing on the educational sector through various schemes; it is worth studying if the past factors have been addressed to successful in the utilization of instructional materials in the practical session of physical education. Then in the case of availability the current study was similar with the study that had been conducted in accordance with Ofjebe(2003) and Akinsolu(2012). However, the current study was dissimilar with the other above previous studies.

The main objective of this study is to assess the physical education practical class instructional materials availability and its utilization on private and public secondary schools of Jimma town.

➤ To this end the following basic research questions were forward in this study:

1. What type of physical education instructional materials available both in the government and private secondary schools?
2. Which schools properly utilized physical education instructional materials?
3. Are there any significant difference between the government and private secondary schools in the availability of instructional materials and its utilization in teaching the practical class in physical education?

### **1.3. The objectives of the study**

#### **1.3.1. General objective**

The main objective of this study was to assess the physical education practical class instructional materials availability and its utilization on private and public secondary schools of Jimma town.

#### **1.3.2. The specific objective of this study is to:**

- To identify type of physical education instructional materials available in private and government secondary schools.
- To examine at what extent both secondary schools properly utilize physical education instructional materials.
- To compare the availability and utilization of physical education instructional materials between private and public secondary schools

#### **1.4. Significance of the study**

The significance of this study was to important for Jimma town private secondary school and government schools of Students, PE teachers, principals' educational office to provide information on the physical education practical class instructional materials availability and its utilization on private and public secondary schools of Jimma town. On the basis of the information that was to gained from the results of this study they was plan on the physical education practical class instructional materials availability and its utilization on private and public secondary schools of Jimma town.

Additionally the result of this study was used as the sources of information for the future researchers those who was to interested to conduct research on the area,

#### **1.5. Delimitation of the study**

This study was conducted in Oromia regional state, Jimma town private and public secondary schools geographically. The study was to limited on assessing the physical education practical class instructional materials availability and its utilization on private and public secondary schools of Jimma town., Private schools, the population **593**, and Government secondary schools the total population **5230**, then the total population of Private and Government schools **5823** to shows in according to the target population.

#### **1.6. Limitation of the study**

The time constraint was one of the limitations of this study since the researcher had conducted this study side by side with regular work. Respondents took a longer period to complete the questionnaires as they were most times busy with their works.

#### **1.6. Operational Definitions of Terms**

**Government school**, or the state school is the term "state school" refers to government-funded schools which provide education free of charge to pupils <https://study.com/.../what-is-physical-education-definition-overview.ht..>

**Private schools**, also known as independent schools , non-governmental, or non state schools, are not administered by local, state or national governments; thus, they retain the right to select



their students and are funded in whole or in part by charging their students tuition<https://study.com/.../what-is-physical-education-definition-overview.ht>.

Comparative is measured or judged by estimating the similarity or dissimilarity between one thing and another; relative. . Comparative is involving the systematic observation of the similarities or dissimilarities between two or more branches of science or subjects of study(Ibid)

## **CHAPTER TWO**

### **2. Literature Reviews**

#### **2. Review of Related Literature**

In this part of the study closely related literature from the works of scholars have been reviewed carefully focusing on the meanings of government schools, private schools, difference between Government and Private Schools and recent Studies that made by different scholars and presented as follows.

#### **2.1. Government School**

Government schools are primary or secondary schools mandated for or offered to all children without charge, funded and controlled by the local, state or national government. Since they are supported by the government, they are wholly or partly funded by taxation.

Since government schools are controlled by the government, the curriculum is decided at a state or national levels; all government schools follow the same curriculum.

Admissions and testing are also managed by the government. Admission to government school is determined by the address of the student. The schools are obliged to take in the students who belong to their respective geographical zone.

Although technology and other facilities vary according to schools, government schools generally have fewer facilities than private schools. Government schools also have a greater number of students than private students; the number of students in a class may also be drastically high due to lack of facilities. However, it is important to notice that government schools always hire highly qualified teachers; teachers must meet all state-mandated requirements and be proficient in their subject to work in a government school(Rajakumar and soundarajan, 2012).

#### **2.3. A private School**

Private secondary schools are different in some conditions in that a private school is not funded nor administered by the government. They are controlled by a private body and funded partially or wholly by student's tuition. The fees are usually higher in private schools. At the same time,

private schools usually have better infrastructure facilities and up-to-date technology when compared with government schools.

Furthermore, the curriculum of the school is decided by the school board; therefore, they do not have a common curriculum. The school administrators also decide the fees and admission. The school has the authority decide whether a student meets the requirements for admission or not. The school also decided the criteria for the recruitment of teachers. In this case, a teacher in a private school may not be qualified as a teacher in government school and the class size of a classroom is smaller than that of a government school. This is mainly due to the availability of resources and facilities (Rajakumar and soundarajan, 2012).

## **2.4. Difference between Government and Private Schools**

Government School is a primary or secondary school funded and controlled by the local, state or national government whereas Private School is a primary or secondary school not administered by the government.

### **2.4.1. Funding and Control**

Government Schools are more or less funded by taxation and controlled by the government but Private Schools are more or less funded by students' tuition and administered by a private body.

**Government Schools** are more or less funded by taxation and controlled by the government but **Private Schools** are more or less funded by students' tuition and administered by a private body. All three levels of government – federal, regional state, and local – contribute to education funding. States typically provide a little less than half of all elementary and secondary education funding. Local governments generally contribute about 44 percent of the total, and the federal government contributes about 13 percent of all direct expenditures. Federal education funding is distributed to states and school districts through a variety of formula and competitive grant programs.

The share of education funding that federal, state, and local governments provide has changed significantly over time. Historically, elementary and secondary education was funded largely by local governments and states played only a supporting role.

A common comparison is that of government schools and private schools. As many government schools are facing budget cuts that lead to larger class sizes and fewer resources, many private schools are continuing to flourish. However, private school can be expensive Blythe2017

#### **2.4.2. Curriculum**

Government School has a set curriculum set at the national level while Private School's curriculum is decided by the school board. Supportive subjects have been given in addition to the national curriculum in the private to strengthen the national curriculum content as additional lessons.

#### **2.4.3. Number of Students**

Government Schools have more students than private schools whereas Private Schools have fewer students than government schools. Class size is one of the major differences between public schools and private schools. The class size in urban public schools can be as large as 65-80 students (or more) while most private schools keep their class sizes closer to an average of 35-45 students, depending on the school (Ibid2017)

Private schools often have selective admissions processes; they are able to choose students who are highly motivated. Many private school students want to learn, and your child will be surrounded by students who regard academic achievement as desirable. For students who aren't challenged enough at their current schools, finding a school full of highly motivated students can be a major improvement in their learning experience (Ibid2017)

#### **2.4.4. Facilities**

Government Schools have fewer facilities and technology compared to private school but Private Schools have more facilities and advanced technology than government schools. The numbers of computer in the private schools were appropriate with student ratio that than government schools. The laboratory demonstrations well performed in the private schools than government schools.

### **2.5. The concept of availability and utilization**

The concepts of availability and utilization of resources in teaching physical education has been explained and discussed by various experts and authors. Availability refers to human and material resources ready for use in teaching physical education in schools. Utilization is the act

of making use of available services at the individual's disposal. Effective and efficient utilization of resources in teaching physical education is one that seeks the welfare and happiness of all the participants in the program. Availability of adequate instructional materials in physical education provides opportunities for students to learn knowledge and skills on their own while the teacher guides the learning process.

Literature revealed that physical education resources in form of facilities, equipment, supplies are very important in physical education. Literature indicate that secondary schools in

Nigeria lack physical education resources are facilities, equipment and supplies which are needed in teaching the subject in the schools. Where such resources exist at all, it may be scanty and inadequate to the school population. The achievement of the objectives of physical education requires some degree of practical oriented teaching. This is important for development of psychomotor skills, which according to Nkemakolam (1997) is the ability to perform a particular physical or occupational task in a natural way through repetition and practice. Literature also revealed that skills and competency possessed by the physical education teacher on the required equipment and facilities influences the extent of utilization. This may be a factor in low utilization of physical education facilities, equipment, and supplies in teaching physical education in schools. Literature also revealed that there have been studies in extent of utilization of community resources in teaching physical education in Nsukka education zone; however, none has been done on availability, adequacy and utilization of physical education resources in secondary schools in Enugu State, hence the need for this study.

## **2.6. Availability of Physical Education Resources in schools**

The relevance of the presence of facilities, equipment and supplies to the smooth running of school physical education program has been severally emphasized in the literature (Akinsami, 1995; Mgbor; 2005). The level of success of most physical education program is greatly dependent on the degree of availability and adequacy of up-to-date equipment and facilities as these form the hub around which such program revolve. Longman (2003) explains available as something that is able to be used or can easily be found and used. In otherwords they are those resources that are committable or usable upon demand to perform their designated or required function.

According to Okoro (1991) facilities, equipment and supplies are very vital in teaching and learning in schools. Similarly Awosika (1992) asserts that facilities and equipment are program related in any teaching program and should be provided in sufficient quantity to meet the needs of the school physical education programmers. National Association for Sports and Physical Education (NASPE: 1995) advocates that sufficient physical education resources are needed to meet the standard for secondary school physical education program. Ogbu (1997) also observed that school physical education resources (facilities, equipment supplies and the personnel) are very important to the successful implementation of the school physical education program. Writing on availability of school facilities and academic achievement Owoeye and Olatunde (2011) opined that availability of school facilities is a potent factor to quantitative education. According to them the importance of provision of instructional facilities for teaching and learning in the education sector cannot be over-emphasized. The authors added; “teaching is inseparable from learning but learning is not separable from teaching”. According to them this means that teachers do the teaching to make the students learn, but students can learn without the teachers. They added that learning can occur through one’s interaction with one’s environment. Environment here refers to facilities that are available to facilitate students learning outcome.

Commenting on factors affecting availability and adequacy of physical education facilities, equipment and supplies in Schools Verela (1996) lamented the political influence in sports and Physical Education environment in relation to availability of resources. He maintained that corruption among other factors is militating against effective management of sports facilities and equipment. According to him money which are meant for development of infrastructural facilities in our school may be channeled in private pockets. Similarly, Ugwu (2002) regretted the attitude of some school heads that show great apathy to Physical activities and sports. He added that such situations found in schools are not healthy development since many sports stars could be left behind. National Teacher Institute (2002) outlined the following as the major factors affecting the availability of Physical Education facilities, equipment and supplies in schools. The factors that affect the availability and utilization of facilities and equipment are: careless planning of program by the games teacher or games master, employment of unqualified

teachers to handle Physical Education, lack of funds, and poor maintenance of existing facilities and equipment.

## **2.7. Utilization of physical education resources in schools.**

Utilization of resources according to Chakraborty, Islam, Chowdhury, Bari and Akhter (2011) is a complex behavioral phenomenon; however it is always related to the availability and quality of such resources or services as the case may be.

Horny (2004) explain utilization as to make use of available services at the individual's disposal. Obi (2006) asserts that from the National Policy on Education (NPE; 2004) it could be observed that one of the objectives of education is to make learning permanent. According to him the utilization of instructional materials in teaching is a sure way of achieving this objective.

When real objects or their representatives are used in teaching, students see, touch and interact with these materials. Interaction with learning materials will help the students not to forget what they learnt easily. Olagunju and Abiona (2008) explained that the process of managing and organizing resources is resource utilization. They added that in a school, the available resources should be utilized in such a way that enables According to Offorma (1990) one of the reasons why available materials are not used by many teachers in schools and colleges is that they lack the necessary skills to operate them. He emphasized that the usefulness of resource materials depends on what the teacher makes out of them. Literature reveal that there are physical education teachers who are not interested in physical activities (Ebo, Nwajei and Akara; 2004).

According to them such situation has worsened the teaching and production of physically educated Nigerians. The authors added that the modern technological age with its accompanying explosion of knowledge calls for teachers who are ready to keep abreast with the constant changing needs of individuals being taught, as well as that of the society.

One of the factors contributing to none utilization of physical education facilities, equipment and supplies in secondary schools in Nigeria is lack of maintenance culture of facilities, equipment and supplies. According to Orunaboka and Nwachukwu (2012) maintenance of most public properties which belong to nobody is less concern of some citizen of Nigeria.

They suggested that for such facility, equipment and supplies to be readily available for utilization in teaching, maintenance culture should be established by the school physical education teacher.

Writing on maintenance culture of physical education facilities, equipment and supplies,

Bucher and Krotee (2002) opined that equipment and facilities should always be maintained in a serviceable condition. Procedures for caring for facilities, equipment, and supplies should be routine so that repairs are provided as needed. All used equipment and supplies should be checked and then repaired, replaced or serviced as the need arises.

## **2.8. Physical education resources**

Resources according to Hornby (2004) are what can be used to help achieve an aim such as equipment and facilities which provide information for the teachers and students. Proper applications of classroom resources in teaching learning are useful and advantageous on the following grounds. (Asogwa, 2007).

Stimulation of interest: The uses of instructional resources bring life in the process of teaching learning. They provide cognitive ‘bridge’ between abstraction and reality to the students. Classroom resources create impressions that are so vivid and powerful that learners hardly forget. Their use make the task of teaching quite easy, interesting methodical and scientific as the teacher becomes quite capable of attaining the teaching objectives with greater efficiency and effectiveness. Erickson and Curl, 1972; Onyejemezi, 1998; Singh, Sharma and Upadhya, (2008), noted that instructional materials generate and maintain students interest and provide the teacher with interest-compelling spring-boards which can launch students into a variety of learning activities.

Making learning highly individual and self-dependent: Educational resources can help the individual learner to proceed on his learning path with his own pace according to his own needs, interests and abilities. Gradually, they make him rely on his abilities and pursue his studies independently with or without the presence of the teacher. Nikky (2010) referred to teaching resources as the different equipment available in the classroom, adding that the process of teaching-learning depends upon the different types of equipment available in the teaching environment or classroom. Teaching resources are therefore all the facilities, equipment and



supplies utilized by the teacher in teaching the subject. Nikky (2010) summarized the following as some of the importance of teaching resources in teaching. Teaching resources help the teacher present concepts in a way that the learners can retain more concepts permanently. They help the teacher to motivate the students, by making the environment more interesting to the students.

Teaching resources facilitates proper understanding by the students and discourage the act of cramming; it also makes the classroom or learning environment live and active.

Osakunih (2002) defined physical education resources as facilities, equipment, supplies and personnel utilized in teaching physical education in schools. Also National Teachers Institute (2002) defines physical education resources as human, material and finance available in teaching of physical education in schools. They are therefore all those facilities, equipment, supplies, and funds as well as personnel used in implementing the physical education program in schools. The place of physical education personnel, facilities, equipment and supplies as well as fund in the effective implementation of the school physical education program is a prominent one. They are the hub on which the school physical education revolves.

The human resources are the personnel involved in teaching of physical education in the schools. Mgbor (2002) indicated that poor staffing in terms of number of physical education teachers, their level of preparation and motivation constitute major constraint to effective learning. In other words, for the programme to be successful there is need for adequate number of teachers that are professionally trained and motivated. According to Mgbodile, Ogbonnaya, Enyi,

Oboegulem and Onwura (2004) no country can move forward politically, socially and economically without adequate human and material resources. They added that abundant human resources represent potential for educational development, but education development of people is necessary to translate such potential into per capita income. Longe, Uwadia and Longe (2005) opined that it is the responsibility of our educational system to provide graduates with the background and skills necessary to be successful in their chosen fields of endeavour. Longe et al (2005) noted that the decline of staff quality is a consequence of obsolete and inadequate teaching and learning facilities in schools.

Omorruan (1996) pointed out that it appears as if the physical education teachers are not being adequately prepared for the well-prepared physical education curriculum in our schools.

This could be better and easier achieved if there is availability of adequate facilities and equipment for teaching the subject right from the secondary school level, more so in physical education where some of the skills are practical oriented. Akin-Taylor and Abayomi (2008) asserted that the Physical Education teacher needs to be professionally trained to enable him possess the necessary skills required in performing the job effectively.

Physical education facilities are immovable permanent structure which is utilized in teaching physical education. Physical education supplies are expendable materials that may last from one to two years which are also used in teaching physical education. Ugwu (2008) defined physical and health education facilities as non-movable built structures for imparting knowledge in physical and health education. Orunaboka and Nwachukwu (2012) posited that physical education supplies are those materials that are expendable and have to be replaced at frequent intervals such as shuttle cocks, tennis balls, whistle etc. Physical education equipment refers to those items that are not considered expendable, but are used for a period of years, such as parallel bars, volleyball standards, soccer goals, strength training equipment and others.

Okonkwo (2011) asserts that the current trends in education sector makes physical education a compulsory subject for every student in junior secondary school. There is therefore the need for provision of basic facilities, equipment, supplies for teaching the subject in the schools so that sports skills could be transmitted to younger generations through teaching.

Nigeria secondary schools physical education requires a variety of physical education facilities, equipment, supplies as well as fund. Supplies and equipment need to vary according to a wide range of factors, including the level of programmer or participants, age of the user group, type of activities being offered, number of participants and available finance in the school (Arnhein & Prentice, 2000). National Teachers Institute (2002) defined supplies to reflect their difference. According to the institute, physical education facilities are immovable permanent structures which are utilized in teaching physical education. Similarly, Ugwu (2008) defined physical education facilities as non-movable built structures for imparting knowledge in physical education in schools. The principles guiding wise planning for physical education facilities include program needs and objectives as well as educational and recreational needs of the school. Recognizing the vital role of equipment and facilities to the successful implementation of any school physical education program, Eleso, (2005) outlined some guidelines and principles for

planning for facilities in order to ensure that those needs that informed the decision to plan for facilities are properly addressed.

### **2.8.1. Planning the Use of Facilities and Equipment**

When planning the use of facilities and equipment, teachers should organize the learning environment in a way that allows for movement and ensures student comfort and safety. It is important to plan routines that students can follow as they move to and from the gymnasium or activity space, make transitions from one activity to another, and collect and put away equipment.

Planning time and creating guidelines for changing clothes, using equipment, and other procedures can maximize student comfort and participation(Mary,1999).

The curriculum contains a wide assortment of examples and prompts that illustrate different ways of meeting the expectations. Teachers can use these as a source of ideas for adapting the delivery of the expectations to meet the particular needs of their students. When making decisions about equipment and facilities, teachers should ensure that they are distributed in a way that provides fair and equal access to support the development of specific skills and add interest to physical activities, a variety of equipment should be used(Grout and Long, 2009).

When supplies are limited, teachers will have to be resourceful to ensure that each student has opportunities to use as many different kinds of equipment as possible. Teachers must provide specific instruction to students on the appropriate handling of equipment, ensure that equipment is in good repair and suitably organized (Mary, 1999).

## **1.9. The Importance of PE Curriculum for Secondary School**

Physical Education is an important part of the secondary school curriculum as an integral component of the total education of students; it contributes to the overall goals of education. Additionally, physical education makes a unique contribution to the education of the student, it is the only subject area in the school devoted to the study of human movement, the acquisition of motor skill, and the promotion of fitness. It is concerned with the total development of the individual, encompassing development in the psychomotor, cognitive, and affective domains. The development of motor skills, fitness, knowledge, and attitude conducive to a lifetime of participation is a commonly acknowledged goal of the secondary school physical education

program Wuest and Lombardo (2000). In addition to this he also added that the Secondary Schools (SS) years are an important time for physical education. During this time adolescents should have the opportunity to be exposed to a variety of sports and outdoor activities and to develop competence in a few selected ones. Gaining knowledge about human movement is an important part of the physical education experience. Since physical activity habits are formed early in life, attention must be given within the physical education program to helping students incorporate physical activity into their lifestyles at this age Wuest and Lombardo (2000).

### **1.9.1.Goals of PE for Secondary Schools**

The goals of physical education for secondary schools are improving physical health and develop a good attitude towards various physical activities that will result in lifetime participation in physical activities MoE (2003). One of the major goals of education is to prepare students to be lifelong learners, knowledge of factors affecting movements is essential to future learning. The general objectives of physical education for grade **9** and **10** syllabus are: quire and refine motor skills essential for everyday activities, develop health-related fitness,attain knowledge on the benefit of physical education and health-related physical fitness,develop an application for the contribution that regular physical activity makes to lifelong health.

These outcomes embrace the acquisition of physical skills, promotion of participation, achievement of fitness, attainment of knowledge, and development of attitude when viewed from themtraditional perspective, the goals of physical education relate to the student development in three interrelated domains and some of assessment techniques are important in practical session MoE (2003).

### **2.9.2. Best Practices in PE**

The ultimate purpose of any Physical Education program is to help adolescents gain the skills and knowledge to be physically active for a lifetime. A developmentally and instructionally appropriate physical education program promotes a physically active lifestyle. It accommodates a variety of individual differences such as cultural identify, previous movement experiences, fitness and skill levels, and intellectual, physical, and social-emotional maturity. Appropriate instruction in Physical

Education incorporates best practices derived from both research and experience for teaching adolescents in ways that facilitate success for all students. Providing a safe and inclusive learning

environment allows the adolescent to experience positive, challenging, and enjoyable physical activity while learning skills and developing an understanding of the benefits and importance of physical activity. Teachers design physical activity experiences appropriate for the developmental level of adolescents (Ontario, 2010).

Teachers plan content that will allow students to experience progressive levels of achievement toward standards. Not only will students achieve competence in a variety of movement activities, movement and fitness. By the end of the required curriculum, students should fully recognize and understand the significance of physical activity in the maintenance of a healthy lifestyle, and should have developed the skills, knowledge, interest, and desire to maintain meaningful activity for lifetime. Teachers will design activity experiences that develop personal and social behaviors consistent with responsible behavior in sport (Douglas,2008).Physical Education is a unique and important component of the total school program. Physical

### **2.9.3. The contribution of secondary school physical education**

Physical education, also known as PE, Ed., Gym, or Gym class, and known in many Commonwealth countries as physical training or PT, is an educational course related of maintaining the human body through physical exercises (i.e. calisthenics). It is taken during primary and secondary education and encourages psychomotor learning in a play or movement exploration setting to promote healthand effective, then we need to know something about how it is taught, who is teaching it, what is being taught and how it can be improved.

In doing so, we can make a contribution to improvements in education, schooling, teaching and learning. Physical education can challenge and inspire. It can lead to life changes in terms of improved health, learning achievements and the development of positive relationships. While traditionally a subject in the curriculum our interests go beyond this to include extra-curricular activities associated with Physical Education such as field trips and sports clubs.

Researchers within the Physical Education Research Forum aim to engage in research that enhances our understanding of what effective teaching and learning is so that current policy, practice and professional development can be improved challenged and even transformed.

Current policies in many countries around the world, views physical education in both primary and secondary schools as a logical site for the provision of opportunities for children and young

people to be physically active. Furthermore, PE teachers are increasingly tasked with the responsibility to educate students about ways to lead a healthy and activity lifestyle. This logic is directly associated with global health concerns about the prevalence of chronic conditions such as cardiovascular disease and other major health risks related to sedentary lifestyle and obesity.

PE is associated with health and wellbeing, as a primary site for student engagement in the development of knowledge and understanding of issues related to health. Consequently, researchers within the Physical Education Research Forum aim to better understand this position for PE and what it means for teaching, learning and student experience. Importantly, group members also aim to challenge this position for PE, question the extent to which PE and PE teachers should be responsible for developing students' physical health, and the extent to which current practice in PE can improve children and young people's social, emotional and mental health.

The aims of physical education are varied and diverse, and may best be illustrated by Zeigler's (1999) contention that the subject consists of 13 'principal principles'. These principles are wide-ranging and include ideas relating to aspects of fitness, aesthetics, citizenship, inclusion and longevity through lifetime physical activity. Thus, it is apparent that PE can be perceived to have varied goals, depending on personal preference and rationale. One goal that has been consistently reinforced over the last decade is PE's promotion of lifelong physical activity, for the benefit of public health. Physical inactivity has been highlighted as a major risk factor for coronary heart disease (Leon and Norstrom, 1995; Morris, 1994; Whaley and Blair, 1995), as well as promoting premature mortality (Paffenbarger et al., 1986). Furthermore, physical activity can develop and maintain muscular strength, flexibility, balance and coordination, which may prevent back pain and other injuries during adulthood (Jopling, 1988). Moreover, peak bone mineral density can be promoted through weight-bearing physical activity, reducing the risk of fractures in later life (Drinkwater, 1994). Therefore PE programs have the potential to influence the next generation of adults to lead healthier lifestyles facilitated by regular participation in physical activity.

This link between adult physical activity and school PE is illustrated well by Shephard and Trudeau (2000). Their view is that the most important goal of PE is the long-term health of the students through their exposure to a wide range of health-giving forms of physical activity. Godin and Shephard (1986) have suggested that physical activity during childhood is vital to

developing the positive attitudes that make such activities enjoyable, and to sustaining active lifestyles during adulthood.

As a consequence of these observations there have been strong recommendations that PE programs should focus on the promotion of lifetime physical activity, in order to enhance and maintain children's health later in life (American College of Sports Medicine, 1988; Harris, 2000; Sallis and McKenzie, 1991). The aim of this paper is to consider the relevance of current PE curricular and extra-curricular programs to the goal of preparing students for participation in lifetime physical activity.

Lifetime activities have been defined as 'those that may readily be carried over into adulthood because they generally need only one or two people' (Ross et al., 1985:76). As lifetime activities also require little structure or organization and minimal equipment, many activities fit this definition. For example, such activities could include cycling for the intrinsic pleasure of participation, jogging for health or fitness benefits, attending dance classes for social reasons, or playing tennis as a competitive outlet. Furthermore, lifetime activities have the potential to provide health-enhancing benefits throughout the adult years. If children are attracted to lifetime activities they may be more likely to follow physically active lifestyles during adulthood (Godin and Shephard, 1990).

Team games commonly fall into the categories of invasion (e.g. hockey) or striking and fielding (e.g. softball). Volleyball is a net and ball game that is also categorized as a team sport, although most other net and ball games such as tennis or badminton fit the definition of lifetime activities. The purpose of team games is for one team to score more points than their opponents, and so by definition they are competitive. Also, team sports generally require more than two players on each side to make up the teams. These players are often required to attend training or practice sessions in order to improve the cohesion and performance of the team. This commitment can place added time pressures on participants. Moreover, team games require an often large or specialized playing area, while the competitive nature of the activities usually means that at least one person is needed to officiate. Team games have much potential to provide health-enhancing benefits (Stratton, 1996), but in reality tend to be less popular among the adult population (Sports Council and Health Education Authority, 1992).

## **2.10. Trends of physical education**

Physical education trends have developed recently to incorporate a greater variety of activities besides typical sports. Introducing students to activities like bowling, walking/hiking, or Frisbee at an early age can help students develop good activity habits that will continue into adulthood. Some teachers have even begun to incorporate stress-reduction techniques such as yoga, deep-breathing and tai chi. Tai chi, an ancient martial arts form focused on slow meditative movements is a relaxation activity with many benefits for students. Studies have shown that tai chi enhances muscular strength and endurance, cardiovascular endurance, and provides many other physical benefits. It also provides psychological benefits such as improving general mental health, concentration, awareness and positive mood (NASPE, 2012). It can be taught to any age student with little or no equipment making it ideal for mixed ability and age classes. Tai chi can easily be incorporated into a holistic learning body and mind unit (Goodway, 2009; Robinson, 2011). Teaching non-traditional sports to students may also provide the necessary motivation for students to increase their activity, and can help students learn about different cultures. For example, while teaching a unit about lacrosse in, for example, the Southwestern United States, students can also learn about the Native American cultures of the Northeastern United States and Eastern Canada, where lacrosse originated. Teaching non-traditional (or non-native) sports provides a great opportunity to integrate academic concepts from other subjects as well (social studies from the example above), which may now be required of many P.E. teachers. The four aspects of P.E. are physical, mental, social, and emotional.

Some activities that are included within PE programs are neither truly team games nor lifetime activities. For example, athletic activities (including cross-country running) could be described as competitive team activities that rely on the combined performances of individuals. Gymnastic activities fit the definition of a lifetime activity, but in practice may have limited relevance to adult participation, particularly in females. This is because body shape, strength and power are important aspects of performance, which often undergo change in females as they get older. Also, access and opportunities to take part in these activities may become more restricted for adults. For such reasons, these two areas of activity, which theoretically fit the definition of lifetime activities, are less likely to be continued into adulthood, and so cannot have that definition applied to them.



Evidence suggests that lifetime activities have a greater 'carry-over' value than team games. Sallis and McKenzie (1991) reported that children who participated in team games tended to take part in more solitary (i.e. lifetime) activities as adults, as opposed to continuing with team pursuits. Also, children who were most active in team sports programs were more likely to watch sport on television as adults than actually participate in physical activity (Sallis et al., 1989). Findings from the Allied Dunbar National Fitness Survey (ADNFS) (Sports Council and Health Education Authority, 1992) further emphasize Sallis and McKenzie's (1991) contention.

It revealed that the top 10 most popular activities participated in by male and female adults in the UK included lifetime activities such as walking, fitness-oriented 'exercises', swimming, cycling, dancing, aerobics, badminton and running, jogging. The national sport of football was the only team game that featured in the male list (ranked eighth), while no team games featured in the female list (Sports Council and Health Education Authority, 1992). Therefore it appears that, in comparison to team games, lifetime activities pursued during childhood are more likely to impact on adult physical activity levels. This is significant because the higher the level of adult participation, the greater the potential health benefits during adulthood.

However, the logic that exposure to a sufficiently broad range of lifetime activities will result in students finding one that they enjoy and subsequently adopt as adults is not so straightforward. Greenwood-Parr and Oslin (1998) contend that exposure to a range of activities is only the start of the process of making students lifelong participants in physical activity. Students are more likely to want to continue their involvement in an activity if their PE lessons allow them to experience self-determination and feel competent in their own abilities (Greenwood-Parr and Oslin, 1998). This situation may be best achieved through learner-centered 'teaching for understanding' approaches, rather than by traditional, skill-based teaching modes, which are more likely to produce a cycle of perceived incompetence. If the latter situation arises consistently, students believe that they cannot do the skills, therefore they think they cannot take part in an activity, which stops them from choosing to take part in that activity out of school and after leaving school (Greenwood-Parr and Oslin, 1998). Thus, it is clear that both the delivery of lifetime activities and student exposure to them are important factors in the promotion of lifelong participation. Physical education plays a part in the lives of almost all children and young people's education around the world. If the physical education experiences of those young people are to be positive

## 2.11. Movement Education

Movement has been a cornerstone of physical education since the 1800s. Early pioneers (Francois Delsarte, Liselott Diem, Rudolf von Laban) focused on a child's ability to use his or her body for self-expression (Abels and Bridges, 2010). Exemplary works and curriculum descriptions include those by Laban himself (Laban, 1980) and others (e.g., Logsdon et al., 1984). Over time, however, the approach shifted from concern with the inner attitude of the mover to a focus on the function and application of each movement (Abels and Bridges, 2010). In the 1960s, the intent of movement education was to apply four movement concepts to the three domains of learning (i.e., cognitive, psychomotor, and affective). The four concepts were *body* (representing the instrument of the action); *space* (where the body is moving); *effort* (the quality with which the movement is executed); and *relationships* (the connections that occur as the body moves—with objects, people, and the environment; Stevens-Smith, 2004).

## 2.12. Fitness Education

Instead of focusing exclusively on having children move constantly to log activity time, a new curricular approach emphasizes teaching them the science behind why they need to be physically active in their lives. The curriculum is designed so that the children are engaged in physical activities that demonstrate relevant scientific knowledge. The goal is the development and maintenance of individual student fitness. In contrast with the movement education and sport education models, the underlying premise is that physical activity is essential to a healthy lifestyle and that students' understanding of fitness and behavior change result from engagement in a fitness education program. The conceptual framework for the model is designed around the health-related components of cardio respiratory fitness, muscular strength and endurance, and flexibility. A recent meta-analysis (Lonsdale et al., 2013) suggests that physical education curricula that include fitness activities can significantly increase the amount of time spent in vigorous- or moderate-intensity physical activity.

Several concept-based fitness education curriculum models exist for both the middle school and senior high school levels. They include Fitness for Life: Middle School (Corbin et al., 2007); Personal Fitness for You (Stokes and Schultz, 2002); Get Active! Get Fit! (Stokes and Schultz, 2009); Personal Fitness: Looking Good, Feeling Good (Williams, 2005); and Foundations of Fitness (Rainey and Murray, 2005). Activities in the curriculum are designed for health benefits,

and the ultimate goal for the student is to develop a commitment to regular exercise and physical activity. It is assumed that all children can achieve a health-enhancing level of fitness through regular engagement in vigorous- or moderate-intensity physical activity.

Randomized controlled studies on the impact of a science-based fitness curriculum in 15 elementary schools showed that, although the curriculum allocated substantial lesson time to learning cognitive knowledge, the students were more motivated to engage in physical activities than students in the 15 control schools experiencing traditional physical education (Chen et al., 2008), and they expended the same amount of calories as their counterparts in the control schools (Chen et al., 2007). Longitudinal data from the study reveal continued knowledge growth in the children that strengthened their understanding of the science behind exercise and active living (Sun et al., 2012). What is unclear, however, is whether the enthusiasm and knowledge gained through the curriculum will translate into the children's lives outside of physical education to help them become physically active at home.

From the research cited above, as well as ongoing research being conducted by the Health Games Research Project funded by the Robert Wood Johnson Foundation, active gaming is promising as a means of providing young children an opportunity to become more physically active and helping them meet the recommended 60 or more minutes of vigorous- or moderate-intensity physical activity per day. Different types of games may influence energy expenditure differentially, and some may serve solely as motivation. Selected games also appear to hold greater promise for increasing energy expenditure, while others invite youth to be physically active through motivational engagement. The dynamic and evolving field of active gaming is a promising area for future research as more opportunities arise to become physically active throughout the school environment.

## **2.13. Components of practical physical education lesson in the secondary schools**

### **2.13.1. Aerobic exercise**

It is any physical activity that makes you sweat, causes you to breathe harder, and gets heart beating faster than at rest. It strengthens the heart and lungs and trains the cardiovascular system to manage and deliver oxygen more quickly and efficiently throughout body. Aerobic exercise uses large muscle groups, is rhythmic in nature, and can be maintained continuously for at least 10 minutes that which enhance the physical development.

Before going into the benefits of aerobic exercise, let's break down some key terms we just mentioned. Cardiovascular system is made up of your heart and blood vessels e.g., arteries, veins, and capillaries that transport blood throughout the body. **Aerobic** refers to how the body uses oxygen to sufficiently meet energy demands during exercise.

### **2.13.2. Benefits of Aerobic Exercise**

In addition to strengthening your heart and cardiovascular system, participation in regular aerobic exercise has many health benefits. Aerobic exercise: improves your circulation and helps your body use oxygen better, increases energy, increases endurance, which means you can work out longer without getting tired, helps reduce the risk of developing heart disease, helps reduce the risk of developing diabetes, helps reduce body fat, helps you reach and maintain a healthy weight, helps reduce stress, tension, anxiety, and depression and improves sleep.

Physical activity such as walking, jogging, indoor cycling, or aerobic dancing are all examples of aerobic exercise that strengthen the heart and lungs, therefore improving your body's utilization of oxygen. For general health, aim for a 30-minute workout (or three 10-minute workouts per day) three to five days a week at moderate intensity. Moderate intensity refers to an activity that will increase your breathing and get your heart beating fast. You should be able to talk with ease during moderate intensity workouts; though trying to sing would be more challenging.

For weight loss, gradually work up to 45 minutes or longer at moderate to vigorous intensity five to six days a week, allowing for at least one day of rest a week. Vigorous intensity refers to an activity that will have your heart beating quite a bit more than moderate intensity workouts, and your breathing will be harder so saying more than a few words will be difficult.

Walking is a great moderate intensity aerobic exercise. The beauty of walking is that it is easy to do with minimal costs. All you need is a good pair of walking shoes, comfortable clothing, and places to walk: for example hiking trails, around your neighborhood, and on rainy days, you can take your walk indoors and use a treadmill.

As with walking, jogging is an activity that is relatively simple to do without spending a lot of money. However, it is important to purchase a pair of good running shoes that fit comfortably and properly. Stick to loose fitting and lightweight clothes that allow your body to breathe and move easily. Jogging is a vigorous activity, so if you are new to jogging you may want to begin

by walking for three or four minutes and then jogging for one. As you get stronger, you can begin to increase the lengths of the jogging intervals.

### **2.13.3. Five Components of Health Related Fitness**

What does it mean to be physically "fit?" Physical fitness is defined as "a set of attributes that people have or achieve that relates to the ability to perform physical activity" (USDHHS, 1996). In other words, it is more than being able to run a long distance or lift a lot of weight at the gym. Being fit is not defined only by what kind of activity you do, how long you do it, or at what level of intensity. While these are important measures of fitness, they only address single areas. Overall fitness is made up of five main components: endurance, strength, muscular, body and flexibility.

#### **2.13.3.1. Cardio-respiratory endurance (cardio-respiratory**

Cardio-respiratory endurance is the ability of the body's circulatory and respiratory systems to supply fuel during sustained physical activity (USDHHS, 1996 as adapted from Corbin & Lindsey, 1994). To improve your cardio-respiratory endurance, try activities that keep your heart rate elevated at a safe level for a sustained length of time such as walking, swimming, or bicycling. The activity you choose does not have to be strenuous to improve your cardio-respiratory endurance. Start slowly with an activity you enjoy, and gradually work up to a more intense pace.

#### **2.13.3. 2. Muscular strength**

Muscular strength is the ability of the muscle to exert force during an activity (USDHHS, 1996 as adapted from Wilmore & Costill, 1994). The key to making your muscles stronger is working them against resistance, whether that from weights or gravity. If you want to gain muscle strength, try exercises such as lifting weights or rapidly taking the stairs.

#### **2.13.3.3. Muscular endurance**

Muscular endurance is the ability of the muscle to continue to perform without fatigue (USDHHS, 1996 as adapted from Wilmore & Costill, 1994). To improve your muscle endurance, try cardio-respiratory activities such as walking, jogging, bicycling, or dancing.

#### **2.13.3.4. Body composition**

Body composition refers to the relative amount of muscle, fat, bone, and other vital parts of the body (USDHHS, 1996 as adapted from Corbin and Lindsey, 1994). A person's total body weight (what you see on the bathroom scale) may not change over time. But the bathroom scale does not assess how much of that body weight is fat and how much is lean mass (muscle, bone, tendons, and ligaments). Body composition is important to consider for health and managing your weight!

#### **2.13.3.5. Flexibility**

Flexibility is the range of motion around a joint (USDHHS, 1996 as adapted from Wilmore & Costill, 1994). Good flexibility in the joints can help prevent injuries through all stages of life. If you want to improve your flexibility, try activities that lengthen the muscles such as swimming or a basic stretching program.

### **2.14. The Implementation of PE Practical Session**

The teaching - learning process is the heart of education. The fulfillment of the aims and objectives of education depends on it. It is the most powerful instrument of education to bring about desired changes in students. Teaching and learning are related terms. In teaching-learning process the teacher, the learner, the curriculum and other variables are organized in a systematic way to attain some pre-determined goal (Gagne, 1985).

According to MoE (2003) the general objectives of Physical Education for grade 9 and 10 syllabus are to acquire and refine motor skills essential for everyday activities and to develop health-related fitness. Moreover, to develop an application for the contribution that regular physical activity makes to lifelong health is also among the general objectives. To this effect all the school community should be better to have the same understanding on the importance of the PE practical session.

### **2.15. Theoretical Framework**

Theoretical Framework is a very essential feature of any study. According to Alor (2006) it provides the basic foundation upon which studies such as education and education practices are built. There are quite a number of theoretical frame works on resource utilization and physical education studies. The theoretical frameworks that will provide guide for this study are as follows:

### **2.15.1. Progressive utilization theory**

Progressive Utilization Theory or PROUT is a socio-economic theory first mentioned in 1959 and fully outlined in 1962 by Indian philosopher and spiritual leader PrabhatRanjanSarkar (1921-1990). According to Craig (1998) PROUT is a social system that overcomes the limitations of both capitalism and communism. Among other things, “progressive utilization” would optimize the use of natural industrial and human resources, based on cooperative coordination on a wide basis, ranging from local communities to larger regions and nations and between the people of diverse geographical areas (Gista: 2004). PROUT seeks the welfare and happiness of all and is also concerned with physical education. The relevance of the progressive utilization theory (PROUT) in this study is its encouragement to optimize the use of available natural resources as well as other resources that belong to agencies in the community where the school is located. This theory encourages the physical education teacher to use all available resources (within and outside) the school to teach physical education.

### **2.15.2. Theory of physical education program**

A theoretical framework advanced by Haag and Nixon (1981). This theoretical framework has four Phases according to the authors; preconditions, planning, implementing and evaluating. Related to the four Phases are six factors identified as socio-cultural preconditions, anthropological preconditions, aims and objectives, content, instructional methods and organizations and finally media. The premise for examining the urban and rural school location implication on the availability, adequacy and utilization of physical education resources is anchored on this theory.

The diagram in figure II indicates that the availability of adequate physical education resources in schools will influence the preconditions, planning, implementation as well as evaluation of the school physical education program. The proper usage of these phases of school physical education programme brings about effective teaching of the subject in schools.

The diagram shows that physical education facilities, equipment, and supplies, should be available. Their availability provides opportunity for precondition, planning, implementation and evaluation. These processes are undertaken by the community involving the agencies and secondary schools. To optimize the use of natural industrial and human resources there should be

cooperation among the agencies and schools. This will lead to effective teaching of physical education in schools.

## **2.16. Empirical Studies on Availability, Adequacy and Utilization of Resources**

Odo (1995) carried out a study on use of instructional materials in teaching economics in secondary schools in Nsukka education zone. The research design was survey. The population of the study consisted of all the economics teachers in Nsukka education zone. The sample also consisted of all the 65 Economics teachers in Nsukka education zone. The questionnaire instrument was used in the study. Data gathered from the study was analyzed using mean and t-test. The findings of the study indicated that most secondary schools in Nsukka education zone do not have adequate instructional materials for teaching and learning economics. The findings of the study also indicated that absence of financial resources in the schools was a major constrain militating against the provision and use of instructional materials. The findings of the study also indicated lack of resourcefulness on the part of the teacher in terms of use of instructional materials.

Ofojebe (2003) evaluated the availability, utilization and maintenance of physical facilities in secondary schools in Anambra State. The research design adopted was the survey research design. The population of the study consisted of teachers and principals of secondary schools in Anambra State. The sample of the study consisted of eighty per cent (80%) of ten secondary schools in Anambra State. The instruments for data collection were questionnaire, interview, school records and observation schedules. The reliability of the instrument was established by using the test-retest method. Data collected was analysed by the use of cluster mean scores.

The result revealed that there were no adequate physical facilities in secondary schools in Anambra State. Akin-Taylor and Ogunyemi (2008) conducted a study on sports resources: predictors of sports performance in colleges of education in western Nigeria. The research design was a survey research design. Four hundred (400) respondents were used for the study and the respondent were drawn from physical education lecturers, coaches, sports administrators and athletes in selected colleges of education in Western Nigeria. The questionnaire instrument was used to illicit information for the study. The chi-square statistics was used to analyze the result of the study. The finding of the study revealed that sports resources-facilities, equipment, supplies



and personnel are very important aspect of any sports programme. They are very important and essential tools in the improvement and attainment of success by athletes in sports performance.

Olagunju and Abioma (2008) conducted a study on the production and utilization of Resources in Biology Education in South West Nigeria Secondary Schools. They used the survey research design. Population of the study included Biology teachers in South. West Nigeria.

Samples of 450 teachers were randomly selected from 150 randomly selected schools in Oyo, Ogun, Osun, Lagos and Ondo States. Two Instruments were used for Data Collection Questionnaire and Interview. Data collected were analyzed using chi-square, percentages and ttest statistics. The findings of the study revealed that: Less than average number of teachers produces resources material. Few teachers use microscope, magnifying glasses, preserved specimen, models, quadrat and aquarium. The study also found out that male teacher's Perception of utilization of resources is significantly higher than their female counterparts.

Ikioya (2008) examined the difference in the availability, adequacy and functionality of Physical Education facilities in Edo state. The research design was survey research design the population of the study constituted principals, teachers and members of the board of education including parents and community leaders. The sampling was done by randomly selecting a hundred and fifty (150) respondents from the above population. The instrument for data collection was a questionnaire. The data generated from the study was analyzed using mean and t-test. The findings of study revealed that decentralization enhances the availability, adequacy and functionality of school Physical Education facilities.

Akintola and Oyeboade (2009) carried out a study on accessibility and use of library resources by undergraduate's students in a Nigeria state University of technology. The research design was the survey research design. The populations included all students that use library resources in the University of Technology. Sample of the study was selected through random sampling technique and included all undergraduate students that are from 200 level to 500 level who use library resources. The questionnaires were distributed to 600 respondents that constituted the sample. Percentages and t-test statistics was used to analyze the data using the statistical package for social sciences (SPSS). The result of the study revealed that 63.1% respondents were male undergraduates while 39.9% of the respondents were female students.

The result of the study also shows that greater percentage (63.1%) of the respondents had access

to computer while lesser percentage (36.9%) of the respondents did not have access to computer.

Agwubike and Ogbouma (2010) studied the adequacy and functionality of fitness equipment and facilities in selected fitness centres in Edo and Delta states of Nigeria. The research design utilized was the survey research design. The population included all the fitness centers in the two states –Edo and Delta state. Sampling was done by the use of 37 fitness centers, selected through the systematic sampling technique. The research instrument used to elicit information was a structured questionnaire and a checklist. The result of the study was analyzed using frequency counts and percentages. Results obtained showed that facilities and equipment in the fitness centers studied were grossly inadequate. The result of the study also indicated that majority of the available equipment were either non-functional or obsolete.

Ede and Olaitan (2010) conducted a study on the utilization of information and communication technology in the teaching of metal work for quality assurance of technical college graduates in South-Western States of Nigeria. The survey research design was used in the study. The population of the study constituted metal work teachers in south-western states of Nigeria. A sample of hundred and two (102) metal work teachers were utilized in the study. Instrument for data collections was a closed ended questionnaire. The analysis of the data gathered from the study was done using mean and standard deviations. The findings revealed that a large number of ICT tools up to 27 ICT tools were not utilized.

Ugwuoke (2010) investigated the adequacy and constraints to financial management in secondary schools in Enugu State. The descriptive survey research design was utilized in the study. The population of the study comprised all the 700 secondary school principles and 200 finance officers in the state secondary schools in Enugu State.

Disproportionate stratified random sampling technique was adopted in the study. The sample of the study comprised of 350 principles and 20 finance officers who were randomly drawn from six education zones of Enugu State. Questionnaire instrument was used in the study. Mean and t-test were used in answering the research questions and testing the null hypotheses respectively.

The findings of the study revealed that it is the opinion of the principals and finance officers that the constraints to financial management in secondary schools in Enugu State included inadequate funding in the schools, mismanagement skills by the financial officers inadequate knowledge of accounting procedure, misappropriation by the school principals among other factors. The

investigator recommended attendance to in-service training, workshops, and seminars on financial management to up-date the knowledge of the school administrators. The author also recommended that schools should generate funds internally to supplement government allocation to schools.

Owoeye, and Olatunde, (2011) conducted a study on the availability of facilities as it relates to academic performance of students in Agricultural science in Ekiti state between 1990 and 1997. The research design was the descriptive survey research design. The population of the study included all candidates that took (WASCE) between 1990 and 1997 in Ekiti State. The sample involved candidates that took (WASCE) in fifty (50) secondary schools in Ekiti State between 1990 and 1997 in both Urban and Rural schools. Instrument for data collection was the questionnaire. Data collected were analysed using mean and t-test. The result of the study showed that there were no significant differences in the performance of students between rural and urban secondary schools in term of availability of laboratory facilities.

Akinsolu (2012) investigated resource utilization and internal efficiency in Nigeria secondary schools. The study was on the relationship between resource utilization and internal efficiency indicators in Nigeria public secondary schools. The survey research design was utilized in the study. The population of the study included in the 774 local governments in

Nigeria. Stratified random sampling technique (SRST) based on the six geopolitical zones in the country was used to select 250 local government areas. The sample proportion to sample size method (sps) was used to select 136 public secondary schools from all the 250 sampled local government areas. Instrument for data collection was questionnaire tagged Resource Utilization Questionnaire (RUQ) and internal efficiency questionnaire (IEQ). The result of the study revealed that resources are vital for educational system production function.

## **CHAPTER THREE**

### **3. RESEARCH DESIGN AND METHODOLOGY**

#### **3.1. Introduction**

Research methodology is the specific science of research that followed to accomplish predetermined research. Hence, all specific methods that is used in the course of accomplishing this thesis is presented in this chapter. It included research design, method of data collection and analysis.

#### **3.2. Research Design**

Descriptive research method was used of this study to describe characteristic situation of or phenomenon being studies. In very case, descriptive research examines a situations and phenomenon as it is descriptive studies, primarly concerned with finding out “what is”. In this descriptive research method quantitative and qualitative method was used to collect data through structured questionnaires.

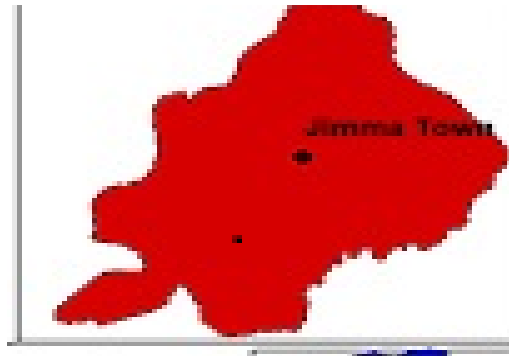
The study is aimed to employees, the main objective of this study was to assess the physical education practical class instructional materials availability and its utilization on private and public secondary schools of Jimma town.

To meet the intended objective of this study research design, specifically was used descriptive research method with both qualitative and quantitative collecting approaches. quantitative collecting approaches was used to collect data from the students through questionnaire and qualitative was used to collect qualitative data through interview and observations from teachers and principals. In this descriptive research method cross sectional survey method was used to collect data from three government and three private secondary schools of Jimma town the current availability of instructional materials and its utilization to teach the practical class in the above listed secondary schools.

In addition, in order to collect comprehensive data that had helped to get valid findings, qualitative data gathering method was used to complete the data to be obtained through quantitative data gathering method.

### **3.3. Study Area**

The study were conducted to on some selected public secondary schools and private secondary schools of Jimma town in that Jiren,Abba Buna and Seto) from public secondary schools and Alden,Catholic and Abifam from the private secondary schools will be the study area.



The Jimma town is located in East Serbo, in West Yebu, in North Jiren, and in South Dedo. The weather condition of jimma town is Semidesert, also Jimma town is 346 kmfar away from Addis Ababa.

### **3.4. Sources of Data**

The data were collected from different respondents who will have adequate exposure to the physical education practical class instructional materials availability and its utilization on private and public secondary schools of Jimma town. The primary data was used to as the sources of data for this study

The primary data sources were collected from private and public secondary schools students, PE teachers and school principals,through the cloth-ended questionnaires for quantitative data analysis and specially for the major finally results of this studys.

The secondary data for this study was sourced from the internet,text book,newsprint, Journals and literature of schools,because to supported the relation ship of this related issues.

### **3.5. Study of participation**

The target population of this study wascomprisethree public secondary schools andthree private secondary schools of Jimma town. The target population of this study were to grade 9 and grade

10 students of Jiren secondary schools, Abba Buna secondary schools and Seto secondary schools) from public secondary schools and Alden secondary schools, Catholic secondary schools and Abifam secondary schools from Private secondary schools. The target population of the study were 5230 public school students and 593 private schools.

### 3.6. Sample and Sampling Techniques

The target population of the study were students who have been attending regular education in private and public secondary schools of Jimma town in 2017/2018 in grade 9 and 10.

Stratified and purposive sampling techniques were used to sample respondents of this study from students, teachers and principals of government secondary schools of Jimma town (Jiren secondary schools, Abba Buna secondary schools and Seto secondary schools), and private schools of Jimma town (Alden secondary schools, Catholic secondary schools and Abifam secondary schools)

Purposive sampling was used to select the schools, the principals and the physical education teachers. Stratified sampling technique was used to select 291 sample students from three government secondary schools and three private secondary schools of Jimma town since the sample respondents were selected from different secondary schools

**Table 1. Governmental school**

No	Name of school	Total numbers of students grade 9	Numbers of sample students	Total numbers of students in grade 10	Numbers of sample students	Total numbers of sample students from grades 9 and 10
1	Jiren secondary school	1382	69	1244	62	131
2	Abba Buna secondary school	640	32	504	25	57
3	Seto secondary school	767	39	693	35	74
<b>Total</b>		<b>2789</b>	<b>140</b>	<b>2441</b>	<b>122</b>	<b>262</b>

In the table above the sample respondents were taken through adding the total populations of students in grade 9 and 10 of the government schools which was 2789 and 2441. Then from these total population 5% of the sample respondents which were 262 sample respondents were taken for this study to collect data.

**Table 2. Private School**

No	Name of school	Total numbers of students grade 9	Numbers of sample students	Total numbers of students in grade 10	Numbers of sample students	Total numbers of sample students from grades 9 and 10
1	Eldan secondary school	165	8	145	7	15
2	Catholic secondary school	130	6	80	4	10
3	Abifam secondary school	31	2	42	2	4
<b>Total</b>		<b>326</b>	<b>16</b>	<b>267</b>	<b>13</b>	<b>29</b>

In the table above the sample respondents were taken through adding the total populations of students in grade 9 and 10 of the private schools which was 326 and 267. Then from these total population 5% of the sample respondents which were 29 sample respondents were taken for this study to collect data.

Purposive sampling was used to select the principals and the physical education teachers, stratified simple random sampling technique was used to select two hundred ninety one (291) sample students from six (6) secondary schools of private and government secondary schools were selected from these secondary schools.

According to Taro Yamane (in 1967), the sample size calculation formula that is up to date. First it should be working with a finite population and if the population size is known the Yamane formula for determining the sample size is given by:  $n = \frac{N}{1 + Ne^2}$

Where as

$n$  = corrected sample size

$N$  = Total population size and

E= Margine of error(MOE), $e=0.05$  based on the research conditions.

Therefore, $N=$  total population size= 5823

E= margin of error (MOE),  $e= 0.05$

$$n=N/ (1+Ne^2)$$

$$n=5823/ (1+5823(0.0025))$$

$$n=5823/ 1+19$$

$$n=5823/20=291. \text{ Then,}$$

The sample was taken from each schools/  $\frac{\text{Total students in each school} \times \text{sample size}}{\text{Total population of students}}$

### **3.6. Instruments of Data Collection**

The instrument used for data collection to conduct this study was self-developed questionnaires. In addition to different participatory approach would be used to ensure the appropriateness of the data modified OCAI (organization on culture Assessment Instrument) like liker's 5 point scale rete questionnaires would be developed for relevant respondents. A structured questionnaire was used for the collection of primary data directly from the respondents.

The researcher had used both quantitative and qualitative data. Both types of data were collected by using appropriate data collection tools in order to obtain enough information from respondents. Thus, the questionnaire was used to collect the quantitative data from students.

Interview and observation were used to collect the qualitative data from PE teachers and principals.

#### **3.6.1. Questionnaire**

The major things of this study questionnaire focus on the availability and utilization of materials in the secondary schools of jimma town, that is playing ground and instructional materials for physical education to practical class.

The researchers was prepare and use a questionnaire in order to investigate the availability of instructional materials and its utilization in the government and private secondary schools of



Jimma town. The questionnaire that were used in this study consisted of 90- items self designed questions. These questions were close-ended five likert scaled (1=strongly disagree; Disagree=2 = partials agree=3 Agree=4 and strongly agree=5)

### **3.6.2. Interview**

As indicated in Wilkinson and Bhandarkar (1999:288), “interviewing is necessary to get deep feeling, perceptions, values or how people interpret the world around them, and past events that are impossible to replicate”. In the light of this, to supplement the data obtained through questionnaire the researcher had conduct interviews with principals and teacher using open ended questions through 13 structured interview and observations was used to collect qualitative data.

### **3.7. Data collection procedure**

As long as the procedure of data collection is concerned, the researcher was gate through the following steps was addressed to collect the relevant data. The first thing the researcher will do was getting to the recommendation latter from the department that was addressed to the selected high schools of public secondary schools and private secondary schools. The recommendations letters was to given for the principals of the selected secondary schools and permission was obtained from the director coordinator of the school. The objective the study was presented to for the school principals. The researcher was recruited to six data collectors of sport professionals, who have strong attachment with the schools and was give training on data collection. Finally, the data were collected to from students, teachers and principals’ through the proposed data collecting instruments.

### **3.8. Pilot Study**

Testing the self- designed questions using the manageable size of sample respondents was very important checking the reliability of the questions. The study pilot from Eldan secondary schools had been conducted on 35 sample students through collecting responses on ninety questions. The responses that had been collected were grouped into three variables based on the basic research questions and reliability statistics were calculated using Cronbatch Alpha and the result were presented in the table 3.8.1as follows.

Table 3. Reliability Statistics using Cronbatch Alpha

S.N	Variables	
1	The materials available in both government and private schools	0.767
2	Schools properly utilized materials	0.845
3	Significance difference between the two secondary schools	0.832

As it was indicated in the above table 3.8.1 reliability statistics were calculated on the basis of the responses collected from 35 sample respondents and the reliability of the self-designed questionnaire was cross-checked with the identified standard and the confidentiality of the responses that was to be collected for the final results through these designed self-questions was confidential since values ranging between 0.00 (much error) and 1.00 (no error), are usually used to indicate the amount of error in the results. The pilot test was statistically reliable since the result of Cronbach Alpha had indicated 0.767, 0.845 and 0.832 respectively.

### 3.9. Method of Data Analysis

In order to achieve the objectives of the study the data obtained from different sources through different data gathering instruments were analyzed based on the nature of the data. Therefore, both quantitative and qualitative techniques were used to analyze and interpret the obtained data. However, quantitative data analysis method was employed as the major technique for final work. The collected quantitative and qualitative data were analyzed using that the researchers had, from the descriptive statistics, percentage, frequency counts, mean, standard deviation, t-test and Karl Pearson product moment correlation coefficient were used to analyze the data. To identify the reason for scarcity of PE materials' The main problems of availability and usability in the secondary schools and Properly utilization of the instructional materials in the secondary schools. The qualitative data analysis method was also used as a supplementary data analysis technique for triangulation and justification purpose to complement the insight drawn from quantitative analysis.

## CHAPTER FOUR

### DATA ANALYSIS AND INTERPRETATION

In this part of the study, different phases and steps were followed in the analysis and interpretations of the data that collected for this study. In the first part of the analysis the data that collected on the demographic information of students were analyzed and followed with discussions. In the second part of the analysis, the data that were collected from the sample respondents of students through questionnaire were analyzed and followed with text explanations. In the last part of the analysis the qualitative data that were collected through interview and observation were analyzed and discussed with text explanations.

#### 4.1. Data Analysis and Discussions on demographic information of students quantitative Data

Under this section the quantitative data that collected from students were analyzed in percentages, means and standard deviation and followed with discussions.

**Table 4.**Frequency table for sex profile of students

Variables	Categories	Frequency	Percent (%)
Sex	Male	202	69
	Female	89	31
	Total	291	100

As it was seen in the above table1 the genders of the respondents were presented in the above analysis in that of202 (69%) the respondents are male and 89(31%) were female respectively. This implies that significant numbers of the respondents of this research were male student responden

**Table 5.**Frequency table for age profile of students

Variables	Categories	Frequency	Percent (%)
Age	15---17	252	86
	18-19	31	11
	20 and above	8	3

The majority of the respondents 252(86%) were found within the age category of 15-17 years and this indicates that the youngest age group has been learning. The second higher age categories 31(11%) found between 18 and 19 years. The insignificant percent 8(3%) of students ages was and above 20 years. This implies that young students of different ages have been learning in the secondary schools.

**Table 6.** Frequency table for grade profile of students

Variables	Categories	Frequency	Percent (%)
Grade	Grade 9	140	48
	Grade 10	151	52
	Total	291	100

140(48) of the sample respondents were selected from grade 9 and 151(52%) sample respondents were from grade 10 students. The numbers of sample respondents of students of students those were selected from grade 9 and 10 were almost similar.

#### 4.2. Data Analysis on the collected responses through questionnaire

Questionnaire was designed to collect the quantitative data from the government and private secondary schools of Jimma town. Close-ended 5 scale likerted questions were designed on the availability and utilizations of physical education instructional materials. On the basis of these designed questions data were collected and analyzed in the following tables

**Table 7.** Physical education instructional playing ground available both in the government and private secondary schools.

No	Items	Items of choices	Public school students				Private school students					Differences		
			Responses				Responses							
			F	%	Mean	STD	F	%	Mean	STD	%	Mean	STD	
1	Availability of playground	SD	100	38.16	0.38	0.019	-	-	-	-	38.16	0.38	0.019	
			DA	60	22	0.45	0.022	-	-	-	-	22	0.45	0.022
			PA	102	38.93	1.1	0.05	11	37.	1.13	0.056	1	0.03	0.002

				6	8		93						
		<b>AG</b>	-	-	-	-	15	51.72	2.06	0.103	51.72	2.06	0.103
		<b>SA</b>	-	-	-	-	3	10.34	0.51	0.025	10.34	0.51	0.025
		<b>Total</b>	262	100	2.00	0.100	29	100	3.72	0.186	-	1.72	0.086
<b>2</b>	Available of Basketball court in the secondary school	<b>SD</b>	106	40.45	0.40	0.020	2	6.89	0.06	0.003	33.56	0.34	0.017
		<b>DA</b>	80	30.53	0.30	0.015	-	-	-	-	30.53	0.30	0.015
		<b>PA</b>	76	29.00	0.29	0.014	9	31.03	0.31	0.015	2.03	0.02	0,001
		<b>AG</b>	-	-	-	-	15	51.72	0.51	0.025	51.72	0.51	0.025
		<b>SA</b>	-	-	-	-	3	10.34	0.10	0.005	10.34	0.10	0.005
		<b>Total</b>	262	100	1.88	0.094	29	100	3.58	0.179	-	1.70	0.085
<b>3</b>	Available of Volleyball court in the secondary school	<b>SD</b>	96	36.64	0.36	0.018	-	-	-	-	36.64	0.36	0.018
		<b>DA</b>	80	30.53	0.61	0.030	2	6.89	0.34	0.017	23.63	0.27	0.013
		<b>PA</b>	86	32.82	0.32	0.016	6	20.68	0.62	0.031	12.14	0.30	0.015
		<b>AG</b>	-	-	-	-	17	58.62	2.34	0.117	58.62	2.34	0.117
		<b>SA</b>	-	-	-	-	4	13.79	0.68	0.034	13.79	0.68	0.034
		<b>Total</b>	262	100	1.96	0.098	29	100	3.79	0.189	-	1.83	0.091
<b>4</b>	Available of Handball court in the secondary school	<b>SD</b>	120	45.80	0.45	0.022	-	-	-	-	45.80	0.45	0.022
		<b>DA</b>	60	22.90	0.45	0.022	1	3.44	0.06	0.003	19.46	0.39	0.022
		<b>PA</b>	82	31.29	0.93	0.046	18	62.06	1.86	0.093	30.77	0.93	0.047
		<b>AG</b>	-	-	-	-	7	24.13	0.96	0.048	24.13	0.96	0.048
		<b>SA</b>	-	-	-	-	3	10.34	0.51	0.025	10.34	0.51	0.025
		<b>Total</b>	262	100	1.85	0.092	29	100	3.41	0.172	-	1.56	0.080
<b>5</b>	Available of Badminton court in the	<b>SD</b>	130	49.61	1.45	0.072	2	6.89	0.06	0.003	42.72	1.39	0.069
		<b>DA</b>	70	26.71	0.5	0.02	24	82.	1.65	0.082	56.0	1.12	0.056

	secondary school				3	6		75			4		
		<b>PA</b>	62	23.66	0.70	0.035	-	-	-	-	23.66	0.70	0.035
		<b>AG</b>	-	-	-	-	1	3.44	0.13	0.006	3.44	0.13	0.006
		<b>SA</b>	-	-	-	-	2	6.89	0.34	0.017	6.89	0.34	0.017
		<b>Total</b>	262	100	1.74	0.087	29	100	2.20	0.110	-	0.46	0.023
<b>6</b>	Available of Tennis court in the secondary school	<b>SD</b>	160	61.06	0.61	0.030	-	-	-	-	61.06	0.61	0.030
		<b>DA</b>	80	30.53	0.61	0.030	2	6.89	0.13	0.006	23.64	0.48	0.024
		<b>PA</b>	22	8.39	0.25	0.012	15	51.72	1.55	0.077	43.33	1.30	0.065
		<b>AG</b>	-	-	-	-	10	34.48	1.37	0.068	34.48	1.37	0.068
		<b>SA</b>	-	--	-	-	2	6.89	0.34	0.017	6.89	0.34	0.017
		<b>Total</b>	262	100	1.47	0.073	29	100	3.41	0.170	-	1.94	0.097
<b>7</b>	Large indoor teaching space of 40m x 50m, for Gymnastics is available in the secondary school	<b>SD</b>	150	57.25	0.57	0.028	3	10.34	0.10	0.008	-	46.91	0.020
		<b>DA</b>	60	22.90	0.45	0.022	-	-	-	-	-	0.45	0.022
		<b>PA</b>	52	19.84	0.59	0.029	2	6.89	0.20	0.010	12.95	0.39	0.019
		<b>AG</b>	-	-	-	-	24	82.75	3.31	0.1655	82.75	3.31	0.1655
		<b>SA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>Total</b>	262	100	1.62	0.081	29	100	3.61	0.180	-	2.01	0.034
<b>8</b>	Available of Swimming pool in the secondary school	<b>SD</b>	200	76.33	0.76	0.038	7	24.13	0.24	0.012	52.20	0.52	0.026
		<b>DA</b>	62	23.66	0.47	0.023	18	62.06	1.24	0.062	38.40	0.77	0.039
		<b>PA</b>	-	-	-	-	4	13.79	0.41	0.020	13.79	0.41	0.020
		<b>AG</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>SA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>Total</b>	262	100	1.23	0.061	29	100	1.89	0.094	-	0.66	0.033

**Table.8.**Aggregate mean result for the above eight items

Item	Type of schools	mean	Standard deviation	Mean difference	T-test	Significance
Availability of play ground	Private	3.20	0.160	1.485	0.794	0.5
	government	1.71	0.085			

Aggregate data are data combined from several measurements. When data are aggregated, the responses that had been collected and analyzed in mean for each item on the basis of the sample respondents responses from the private and government secondary schools were summarize. Mean difference is the result of aggregate mean score of the private secondary school subtracting from the result of aggregate mean score of the government secondary schools. A t-test is an analysis framework used to determine the difference between the private and government school sample means. The aggregate mean score of the private was 3.20 and the aggregate mean score of the government was 1.71 and the mean difference was 1.485. The t-test was 0.794 and there was significant difference.

In the above table eight items were designed based on the availability of play ground in the public secondary schools and private secondary schools. On the basis of these items data were collected, analyzed and presented as follows,

The first item was designed to assess the availability of football court in private and public secondary schools. 100(38.16%), 60(22%) and 102(38.93%) responses of students on availability of football court in the public schools had indicated that they had strongly disagreed, disagreed and partially agreed on the availability of football court in the public schools. In the same way 11(37.93%) responses of students on availability of football court in the private schools had indicated that they had partially agreed on the availability of football court in private schools. However, 15(51.72%) and 3(10.34%) responses of students on availability of football court in the private schools had indicated that they had agreed and strongly agreed on availability of football court in the private schools respectively. The mean scores of responses in private and public secondary schools had indicated 3.72 and 2.00 respectively. This implies that availability of football court in the private secondary schools is more than the public secondary schools according to the significance responses that had been collected from both private and public secondary schools.

The second item was designed to assess the availability of Basketball court in private and public the secondary schools. 106(40.45%), 80(30.53%) and 76(29.00%) responses of students on availability of Basketball court in public the secondary schools had indicated that they had strongly disagreed, disagreed and partially agreed on the availability of Basketball court in public the secondary schools respectively. In the same way 2(6.89%) and 9(31.03%) responses of students in private on availability of Basketball court in the private schools had indicated that they had strongly disagreed and partially agreed on the availability of Basketball court in the private schools. However, the significant numbers of responses 15(51.72%) and 3(10.34%) of students in private on availability of Basketball court in the private schools had indicated that they had agreed and strongly agreed on availability of Basketball court in the private schools respectively. The mean scores of responses in private and public secondary schools had indicated 3.58 and 1.88 respectively. This implies that availability of Basketball court in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The third item was designed to assess the availability of Volley ball court in private and the secondary schools 96(36.64%), 80(30.53%) and 86(32.82%) response of students on availability of Volley ball court, Foot ball court, Basket ball court, Hand ball court in public the secondary schools had indicated that they had strongly disagreed, disagreed and partially agreed on the availability of Volley ball court, Foot ball court, Basket ball court, Hand ball court in public the secondary schools respectively. In the same way 2(6.89%) and 6(20.68%) responses of students in private on availability of Volley ball court, Foot ball court, Basket ball court, Hand ball court in the private schools had indicated that they had disagreed and partially agreed on the availability of Volley ball court, Foot ball court, Basket ball court, Hand ball court in the private schools. However, the significant numbers of responses 17(58.62%) and 4(13.79%) of students in private on availability of Volley ball court in the private schools had indicated that they had agreed and strongly agreed on availability of Volley ball court in the private schools respectively. The mean scores of responses in private and public secondary school had indicated 3.79 and 1.88 respectively. This implies that availability of Volley ball court in the private schools is more than the public schools according to the significance responses that had been collected from both private secondary schools.



The fourth item was designed to assess the availability of Hand ball court in private and the secondary schools 120 (45.80%), 60 (22.90%) and 82 (31.29%) response of students on availability of Hand ball court in public the secondary schools had indicated that they had strongly disagreed, disagreed and partially agreed on the availability of Hand ball court in public the secondary schools respectively. In the same way 1 (3.44%) and 18 (62.06%) responses of students in private on availability of Hand ball court in the private schools had indicated that they had disagreed and partially agreed on the availability of Hand ball court in the private schools

However, the significant numbers of responses 7 (24.13%) and 3 (10.34%) of students in private on availability of Hand ball court in the private schools had indicated that they had agreed and strongly agreed on availability of Hand ball court in the private schools respectively. The mean scores of responses in private and public secondary school had indicated 3.41 and 1.85 respectively. This implies that availability of Hand ball court in the private schools is more than the public schools according to the significance responses that had been collected from both private secondary schools.

The fifth item was designed to assess the availability of Badminton court private and public in the secondary schools. 130 (49.61%), 70 (26.71%) and 62 (23.66%) responses of students on availability of Badminton court in public the secondary schools had indicated that they had strongly disagreed, disagreed and partially agreed on the availability of Badminton court in public the secondary schools respectively. In the same way 2 (6.89%) and 24 (82.75%) responses of students on availability of Badminton court in the private schools had indicated that they had disagreed and partially agreed on the availability of Badminton court in private schools respectively. Whereas the responses of 1 (3.44%) and 2 (6.89%) of students in private on availability of Badminton court in the private schools had indicated that they had agreed and strongly agreed on availability of Badminton court in the private schools respectively. The mean scores of responses in private and public secondary schools had indicated 2.20 and 1.74 respectively. This implies that Badminton court was not available in the private schools and public secondary schools according to the responses that had been collected from the sample respondents.

The sixth item was designed to assess the availability of Tennis table private and public in the secondary schools. 160 (61.06%), 80 (30.53%) and 22 (8.39%) responses of students on availability of Tennis table in public the secondary schools had indicated that they had strongly disagreed, disagreed and partially agreed on the availability of Tennis table in public the secondary

schools respectively. In the same way 2(6.89%) and 15(51.72%) responses of students on availability of Tennis table in the private schools had indicated that they had disagreed and partially agreed on the availability of Tennis table in private schools respectively. Whereas the responses of 10(34.48%) and 2(6.89%) of students in private on availability of Tennis table in the private schools had indicated that they had agreed and strongly agreed on availability of Tennis table in the private schools respectively. The mean scores of responses in private and public secondary schools had indicated 3.41 and 1.47 respectively. This implies that availability of Tennis table in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The seventh item was designed to assess the availability of Large indoor teaching space of 40m x 50m, Gymnastics in private and public in the secondary schools. 150(57.25%), 60(22.90%) and 52(19.84%) responses of students on availability of Large indoor teaching space of 40m x 50m, Gymnastics in public the secondary schools had indicated that they had strongly disagreed, disagreed and partially agreed on the availability of Large indoor teaching space of 40m x 50m, Gymnastics in public the secondary schools respectively. In the same way 3(10.34%) and 2(6.89%) responses of students on availability of Large indoor teaching space of 40m x 50m, Gymnastics in the private schools had indicated that they had disagreed and partially agreed on the availability of Large indoor teaching space of 40m x 50m, Gymnastics in private schools respectively. Whereas the responses of 24(82.75) of students in private on availability of Large indoor teaching space of 40m x 50m, Gymnastics in the private schools had indicated that they had agreed and strongly agreed on availability of in the private schools respectively. The mean scores of responses in private and public secondary schools had indicated 3.61 and 1.62 respectively. This implies that availability of Large indoor teaching space of 40m x 50m, Gymnastics in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The eighth item was designed to assess the availability of Swimming pool in private and public the secondary schools. 200(76.33%) and 62(23.66%) responses of students on availability of Swimming pool in public the secondary schools had indicated that they had strongly disagreed and disagreed on the availability of Swimming pool in public the secondary schools respectively. In the same way 7(24.13%), 18(62.06%) and 4(13.79%) responses of students on availability of Swimming pool in the private schools had indicated that they had strongly

disagreed, disagreed and partially agreed on the availability of Swimming pool in private schools respectively. The mean scores of responses in private and public secondary schools had indicated 1.89 and 1.23 respectively. This implies that Swimming pool was not available in the private schools and public secondary schools according to the responses that had been collected from the sample respondents.

**Table 9.** Physical education instructional Playing ground available both in the government and private secondary schools.

No	Items	Items of choices	Public school students				Private school students				Differences		
			Responses				Responses						
			F	%	Mean	STD	F	%	Mean	STD	%	Mean	STD
<b>B</b>	<b>Available of Gymnastic Tripod</b>												
<b>1</b>	Available of Landing mats are in the secondary school	<b>SD</b>	182	69.46	0.69	0.034	2	6.89	0.06	0.003	62.57	0.63	0.031
		<b>DA</b>	60	22.90	0.45	0.022	-	-	-	-	22.90	0.45	0.022
		<b>PA</b>	20	7.63	0.22	0.011	19	65.51	1.97	0.098	57.88	1.75	0.087
		<b>AG</b>	-	-	-	-	6	20.68	0.82	0.041	20.68	0.82	0.041
		<b>SA</b>	-	-	-	-	2	6.89	0.34	0.017	6.89	0.34	0.017
		<b>Total</b>	262	100	1.38	0.069	29	100	4.27	0.213	-	2.89	0.144
<b>2</b>	Gymnasium is available in the secondary school	<b>SD</b>	140	53.43	0.53	0.026	5	17.24	0.17	0.008	36.19	0.36	0.018
		<b>DA</b>	82	31.29	0.62	0.031	14	48.27	0.96	0.048	16.98	0.34	0.017
		<b>PA</b>	40	15.26	0.45	0.022	6	20.68	0.62	0.031	5.42	0.13	0.009
		<b>AG</b>	-	-	-	-	4	13.79	0.55	0.027	13.79	0.55	0.027
		<b>SA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>Total</b>	262	100	1.61	0.080	29	100	2.31	0.115	-	0.70	0.035
<b>3</b>	Available of Storage room in the secondary school	<b>SD</b>	196	74.80	0.74	0.037	1	3.44	0.03	0.001	71.36	0.71	0.036
		<b>DA</b>	24	9.16	0.18	0.009	1	3.44	0.06	0.003	5.72	0.12	0.006
		<b>PA</b>	42	16.03	0.48	0.024	15	51.72	1.55	0.077	35.69	1.07	0.053
		<b>Total</b>	262	100	1.38	0.069	29	100	2.68	0.134	-	1.30	0.065
<b>4</b>	6-8 lane athletic tracks have been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	162	61.68	0.61	0.030	-	-	-	-	61.68	0.61	0.030
		<b>DA</b>	100	38.16	0.76	0.038	-	-	-	-	38.16	0.76	0.038
		<b>PA</b>		-	-	-	13	44.82	1.34	0.067	44.82	1.34	0.067
		<b>AG</b>	-	-	-	-	16	55.17	2.20	0.110	55.17	2.20	0.110
		<b>SA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>Total</b>	262	100	1.38	0.069	29	100	4.10	0.205	-	2.72	0.136
<b>5</b>	Take-off	<b>SD</b>	162	61.83	0.61	0.030	-	-	-	-	61.83	0.61	0.030

	boards have been utilized in the secondary schools for the practical class in the physical education	<b>DA</b>	100	38.16	0.76	0.038	-	-	-	-	38.16	0.76	0.038
		<b>PA</b>	-	-	-	-	13	44.82	1.34	0.067	44.82	1.34	0.067
		<b>AG</b>	-	-	-	-	16	55.17	2.20	0.110	55.17	2.20	0.110
<b>6</b>	Long benches have been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>DA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>PA</b>	80	30.53	0.91	0.045	13	44.82	1.34	0.067	14.29	0.43	0.022
		<b>AG</b>	182	69.46	2.77	0.138	16	55.17	2.20	0.110	14.29	0.57	0.028
		<b>SA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>Total</b>	262	100	3.69	0.184	29	100	4.10	0.205	-	0.41	0.021
<b>7</b>	Agility mattresses have been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	162	61.83	0.61	0.030	-	-	-	-	61.83	0.61	0.030
		<b>DA</b>	100	38.16	0.76	0.038	-	-	-	-	38.16	0.76	0.038
		<b>PA</b>	-	-	-	-	13	44.82	1.34	0.067	44.82	1.34	0.067
		<b>AG</b>	-	-	-	-	16	55.17	2.20	0.110	55.17	2.20	0.110
		<b>SA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>Total</b>	262	100	138	0.069	29	100	4.10	0.205	-	2.72	0.136

**Table 10 .Aggregate mean result for the above seven items**

Item	Type of schools	mean	Standard deviation	Mean difference	T-test	Significance
Availability of Gymnastics Tripod	Private	3.08	0.154	1.652	0.810	significant
	government	1.42	0.071			

Aggregate data are data combined from several measurements. When data are aggregated, the responses that had been collected and analyzed in mean for each item on the basis of the sample respondents responses from the private and government secondary schools were summarize. Mean difference is the result of aggregate mean score of the private secondary schools subtracting from the result of aggregate mean score of the government secondary schools. A t-test is an analysis framework used to determine the difference between the private and government school sample means. The aggregate mean score of the private was 3.08 and the aggregate mean score of the government was 1.42 and the mean difference was 1.652. The t-test was 0.810 and there was significant difference.

seven items were designed in the above table 4.2.1.B. to collect data on Physical education instructional materials available both in the government and private secondary schools. The collected data were analyzed and presented with meaningful conclusions as follows. The first item was designed to assess the availability of Landing mats in public and private secondary schools. 182 (69.46%), 60 (22.90%) and 20 (7.63%) responses of students on availability of Landing mats in public secondary schools had indicated that they had strongly disagreed, disagreed and partially agreed on the availability of Landing mats in public secondary schools respectively. In the same way 2 (6.89%) and 19 (65.51%) responses of students on availability of Landing mats in private schools had indicated that they had strongly disagreed and disagreed on the availability of Landing mats in private schools respectively. Whereas the responses of 6 (20.68%) and 2 (6.89%) of students in private schools had indicated that they had agreed and strongly agreed on availability of Landing mats in private schools respectively. The mean scores of responses in private and public secondary schools had indicated 4.27 and 1.38 respectively. This implies that availability of landing mats in private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools. The second item was designed to assess the availability of Gymnasium in public and private secondary schools. 140 (53.43%), 82 (31.29%) and 4 (15.26%) responses of students on availability of Gymnasium in public secondary schools had indicated that they had strongly disagreed, disagreed and partially agreed on the availability of Gymnasium in public secondary schools respectively. In the same way 5 (17.24%), 14 (48.27%) and 6 (20.68%) responses of students on availability of Gymnasium in private schools had indicated that they had strongly disagreed, disagreed and partially agreed on the availability of Gymnasium in private schools respectively. Whereas the responses of 4 (13.79%) of students in private schools had indicated that they had agreed. The mean scores of responses in private and public secondary schools had indicated 2.31 and 1.61 respectively. This implies that Gymnasium was not available in the private schools and public secondary schools according to the responses that had been collected from the sample respondents.

The third item was designed to assess the availability of Storage room in the public and private secondary schools. 196 (74.80%), 24 (9.16%) and 42 (16.03%) responses of students on availability of Storage room in public secondary schools had indicated that they had strongly disagreed and disagreed on the availability of Storage room in public secondary schools respectively. In the same way 1 (3.44%), 1 (3.44%) and 15 (51.72%) responses of students on availability of Storage room in private schools had indicated that they had strongly disagreed, disagreed and partially agreed on availability of Storage room in private schools

The fifth item was designed to assess the availability of Take-off boards in the public and private secondary schools. 180(68.70%), 62(23.66%) and 20(7.63%) responses of students on availability of Take-off boards in public the secondary school had indicated that they had strongly disagreed and disagreed on the availability of Take-off boards in public the secondary schools respectively. In the same way 2(6.89%), 11(37.93%) and 10(34.48%) responses of students on availability of Take-off boards in the private schools had indicated that they had strongly disagreed, disagreed and partially agreed on the availability of Take-off boards in private schools respectively. However 6 (20.68%) responses of students on availability of Take-off boards in the private schools had indicated that they had agreed on availability of Take-off boards in the private schools. The mean scores of responses in private and public secondary schools had indicated 2.68 and 1.38 respectively.

The sixth item was designed to assess the availability of Long benches in the public and private secondary schools. 162(61.83%), 80(30.53%) and 20(7.63%) responses of students on availability of Long benches in public the secondary school had indicated that they had strongly disagreed and disagreed on the availability of Long benches in public the secondary schools respectively. In the same way 15(51.72%) responses of students on availability of Long benches in the private schools had indicated that they had partially agreed on the availability of Long benches in private schools. However 10 (34.48%) and 4(13.79%) responses of students on availability of Long benches in the private schools had indicated that they had agreed and strongly agreed on availability of Long benches in the private schools. The mean scores of responses in private and public secondary schools had indicated 3.62 and 1.45 respectively. This implies that availability of Long benches in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The seventh item was designed to assess the availability of Agility mattresses in the public and private secondary schools. 182(69.46%), 60(22.90%) and 20(7.63%) responses of students on availability of Agility mattresses in public the secondary school had indicated that they had strongly disagreed and disagreed on the availability of Agility mattresses in public the secondary schools respectively. In the same way 3(10.34%) and 17(58.62%) responses of students on availability of Agility mattresses in the private schools had indicated that they had disagreed and partially agreed on the availability of Agility mattresses in private schools respectively. However 6 (20.68%) and 3(10.34%) responses of students on availability of Agility

mattresses in the private schools had indicated that they had agreed and strongly agreed on availability of Agility mattresses in the private schools. The mean scores of responses in private and public secondary schools had indicated 3.31 and 1.38 respectively.

This implies that availability of Agility mattresses in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

**Table 11.** Physical education instructional playing ground available both in the government and private secondary schools.

No	Items	Items of choices	Public school students				Private school students				Differences		
			Responses				Responses						
			F	%	Mean	STD	F	%	Mean	STD	%	Mean	STD
<b>C</b>	<b>Available of ATHLETIC IM</b>												
<b>1</b>	Available of Horizontal bars are in the secondary school	<b>SD</b>	192	73.28	0.73	0.036	2	6.89	0.06	0.003	66.39	0.67	0.033
		<b>DA</b>	40	15.26	0.30	0.015	-	-	-	-	15.26	0.30	0.015
		<b>PA</b>	30	11.45	0.34	0.017	11	37.93	1.13	0.056	26.48	0.79	0.039
		<b>AG</b>	-	-	-	-	14	48.27	1.93	0.096	48.27	1.93	0.096
		<b>SA</b>	-	-	-	-	2	6.89	0.06	0.003	6.89	0.06	0.003
		<b>Tot al</b>	262	100	1.38	0.067	29	3.48	0.174	0.008	-	2.1	0.059
<b>2</b>	Available of Javelin (male) are in the secondary school	<b>SD</b>	186	70.99	0.70	0.035	-	-	-	-	70.99	0.70	0.035
		<b>DA</b>	44	16.79	0.33	0.016	2	6.89	0.13	0.006	9.87	0.20	0.010
		<b>PA</b>	32	12.21	0.36	0.018	8	27.58	0.82	0.041	15.37	0.46	0.023
		<b>AG</b>	-	-	-	-	14	48.27	1.93	0.096	48.27	1.93	0.096
		<b>SA</b>	-	-	-	-	5	17.24	0.86	0.043	17.24	0.86	0.043
		<b>Tot</b>	262	100	1.41	0.070	29	100	3.75	0.187	-	2.3	0.117

		<b>al</b>										4	
<b>3</b>	Javelin (female) are available in the secondary school	<b>SD</b>	190	72.51	0.72	0.036	3	10.34	0.10	0.008	62.17	0.62	0.028
		<b>DA</b>	52	19.84	0.39	0.019	-	-	-	-	19.84	0.39	0.019
		<b>PA</b>	20	7.63	0.22	0.011	7	24.13	0.72	0.036	16.50	0.50	0.025
		<b>AG</b>	-	-	-	-	14	48.27	1.93	0.096	48.27	1.93	0.096
		<b>SA</b>	-	-	-	-	5	17.24	0.86	0.043	17.24	0.86	0.043
		<b>Total</b>	262	100	1.35	0.067	29	100	3.62	0.181	-	2.27	0.114
<b>4</b>	Shot puts (male) are available in the secondary school	<b>SD</b>	180	68.70	0.68	0.034	1	3.44	0.03	0.001	65.26	0.65	0.033
		<b>DA</b>	62	23.66	0.47	0.023	-	-	-	-	23.66	0.47	0.023
		<b>PA</b>	20	7.63	0.22	0.011	8	27.58	0.82	0.041	19.95	0.60	0.030
		<b>AG</b>	-	-	-	-	15	51.72	2.06	0.103	51.72	2.06	0.103
		<b>SA</b>	-	-	-	-	5	17.24	0.86	0.043	17.24	0.86	0.043
		<b>Total</b>	262	100	1.38	0.069	29	100	3.79	0.189	-	2.41	0.120
<b>5</b>	Shot put (female) are available in the secondary school	<b>SD</b>	182	69.46	0.69	0.034	2	6.89	0.06	0.003	62.57	0.63	0.155
		<b>DA</b>	60	22.90	0.45	0.022	-	-	-	-	22.90	0.45	0.022
		<b>PA</b>	20	7.63	0.22	0.011	9	31.03	0.93	0.046	23.40	0.71	0.035
		<b>AG</b>	-	-	-	-	13	44.82	1.79	0.089	44.82	1.79	0.089
		<b>SA</b>	-	-	-	-	5	17.24	0.86	0.043	17.24	0.86	0.043
		<b>Total</b>	262	100	1.38	0.069	29	100	3.65	0.182	-	2.27	0.113
<b>6</b>	Discuss (male) are available in the secondary school	<b>SD</b>	160	61.06	0.61	0.030	3	10.34	0.10	0.008	50.72	0.51	0.022
		<b>DA</b>	82	31.29	0.62	0.031	1	3.44	0.06	0.003	27.85	0.56	0.028
		<b>PA</b>	20	7.63	0.22	0.011	9	31.03	0.93	0.046	23.40	0.71	0.035
		<b>AG</b>	-	-	-	-	11	37.93	1.51	0.075	37.93	1.51	0.075
		<b>SA</b>	-	-	-	-	5	17.24	0.86	0.043	17.24	0.86	0.043



											4	6	
		<b>Total</b>	262	100	1.46	0.073	29	100	3.48	0.174	-	2.02	0.099
<b>7</b>	Pairs of high Jump stand are available in the secondary school	<b>SD</b>	150	57.25	0.57	0.028	3	10.34	0.10	0.008	46.91	0.47	0.020
		<b>DA</b>	92	35.11	0.70	0.035	1	3.44	0.06	0.003	31.67	0.67	0.034
		<b>PA</b>	20	7.63	0.22	0.011	12	41.37	1.24	0.062	33.74	1.02	0.051
		<b>AG</b>	-	-	-	-	9	31.03	1.24	0.062	31.03	1.24	0.062
		<b>SA</b>	-	-	-	-	4	13.79	0.68	0.034	13.79	0.68	0.034
		<b>Total</b>	262	100	1.73	0.086	29	100	3.03	0.151	-	1.30	0.065
		<b>SD</b>	180	68.70	0.68	0.034	4	13.79	0.13	0.006	54.91	0.55	0.012
<b>8</b>	Aluminum cross bar are available in the secondary school	<b>DA</b>	42	16.03	0.32	0.016	8	27.58	0.55	0.027	11.55	0.23	0.011
		<b>PA</b>	40	15.26	0.45	0.022	9	31.03	0.93	0.046	15.77	0.48	0.024
		<b>AG</b>	-	-	-	-	5	17.24	0.68	0.034	17.24	0.68	0.034
		<b>SA</b>	-	-	-	-	3	10.34	0.51	0.025	10.34	0.51	0.025
		<b>Total</b>	262	100	1.46	0.073	29	100	2.82	0.141	-	1.36	0.068
		<b>SD</b>	190	72.51	0.72	0.036	-	-	-	-	-	72.51	0.72
<b>9</b>	Landing foams for high jump and pole vault 40pairs are available in the secondary school	<b>DA</b>	50	19.08	0.38	0.019	-	-	-	-	19.08	0.38	0.019
		<b>PA</b>	22	8.39	0.25	0.012	7	24.13	0.72	0.036	15.74	0.47	0.024
		<b>AG</b>	-	-	-	-	14	48.27	1.93	0.096	48.27	1.93	0.096
		<b>SA</b>	-	-	-	-	8	27.58	1.37	0.068	27.58	1.37	0.068
		<b>Total</b>	262	100	1.35	0.067	29	100	4.03	0.201	-	2.68	0.134
		<b>SD</b>	160	61.06	0.61	0.030	-	-	-	-	-	61.06	0.61
<b>10</b>	Exchange batons are available in the secondary school	<b>DA</b>	82	31.29	0.62	0.031	-	-	-	-	31.29	0.62	0.031
		<b>PA</b>	20	7.63	0.22	0.011	7	24.13	0.72	0.036	16.50	0.50	0.025
		<b>AG</b>	-	-	-	-	14	48.27	1.93	0.096	48.27	1.93	0.096
		<b>SA</b>	-	-	-	-	8	27.58	1.37	0.068	27.58	1.37	0.068

											7	3	
		<b>SA</b>	-	-	-	-	8	27.58	1.37	0.068	27.58	1.37	0.068
		<b>Total</b>	262	100	1.46	0.073	29	100	4.03	0.201	-	2.57	0.128
<b>11</b>	Hurdle stands 60pairs are available in the secondary school	<b>SD</b>	160	61.06	0.61	0.030	3	10.34	0.10	0.008	50.72	0.51	0.022
		<b>DA</b>	80	30.53	0.61	0.030	14	48.27	0.96	0.048	17.74	0.35	0.018
		<b>PA</b>	22	8.39	0.25	0.012	9	31.03	0.93	0.046	22.64	0.68	0.034
		<b>AG</b>	-	-	-	-	1	3.44	0.13	0.006	3.44	0.13	0.006
		<b>SA</b>	-	-	-	-	2	6.89	0.34	0.017	6.89	0.34	0.017
		<b>Total</b>	262	100	1.47	0.073	29	100	2.48	0.124	-	-	1.01

**Table 12.**Aggregate mean result for the above Eleven items

Item	Type of schools	Mean	Standard deviation	Mean difference	T-test	Significance
Availability of Athletics	Private	3.16	0.158	2.030	0.987	significant
	government	1.43	0.071			

Aggregate data are data combined from several measurements. When data are aggregated, the responses that had been collected and analyzed in mean for each item on the basis of the sample respondents responses from the private and government secondary schools were summarize. Mean difference is the result of aggregate mean score of the private secondary schools subtracting from the result of aggregate mean score of the government secondary schools. A t-test is an analysis framework used to determine the difference between the private and government school sample means. The aggregate mean score of the private was 3.16 and the aggregate mean score of the government was 1.43 and the mean difference was 2.030. The t-test was 0.987 and there was significant difference.

Eleven items were designed in the above table 4.2.1 to collect data on physical education instructional materials availability both in the government and private secondary schools. The collected data were analyzed and presented with meaningful conclusions as follow The first item was designed to assess the availability of Horizontal bars in public and private the secondary schools.192(73.28%),40(15.26%) and 30(11.45%)responses of students onavailability of Horizontal bars in public the secondary schoolshad indicated thatthey had strongly disagreed, disagreed and partially agreed on theavailability of Horizontal barsin public the secondary schools respectively. In the same way 2(6.89%) and 11(37.93%) responses of students onavailability of Horizontal barsin theprivate schools had indicated that they had strongly disagreed and partially agreed on theavailability of Horizontal barsin private schools respectively.However 14 (48.27%) and 2(6.89%) responses of students onavailability ofHorizontal barsin theprivate schools had indicated that they hadagreed and strongly agreedonavailability of Horizontal barsin theprivate schools.The mean scores of responses in private and public secondary schools had indicated 3.48 and 1.38 respectively.This implies that availability of Horizontal bars in theprivate schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The second item was designed to assess the availability ofJavelin (male) inpublic and private the secondary schools.186(70.99%),44(16.79%) and 32(12.21%)responses of students onavailability of Javelin (male) in public the secondary schoolshad indicated that they had strongly disagreed and disagreed on theavailability of Javelin (male) in public the secondary schools respectively. In the same way 2(6.89%) and 8(27.58%) responses of students onavailability of Javelin (male)in theprivate schools had indicated that they had disagreed and partially agreed on theavailability of Javelin (male)in private schools respectively.However 14 (48.27%) and 5(17.24%) responses of students onavailability ofJavelin (male)in theprivate schools had indicated that they hadagreed and strongly agreed onavailability of Javelin (male)in theprivate schools.The mean scores of responses in private and public secondary schools had indicated 3.75 and 1.41 respectively.This impliesthat availability of Javelin (male) in theprivate schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The third item was designed to assessthe availability of Javelin (female) public and private in the secondary schools. 190(72.51%),52(19.84%) and 20(7.63%)responses of students onavailability of Javelin (female) in public the secondary schoolshad indicated thatthey had strongly disagreed and disagreed on theavailability of Javelin (female) in public the secondary

The fifth item was designed to assess the availability of Shot put (female) in public and private the secondary schools. 182(69.46%), 60(22.90%) and 20(7.63%) responses of students on availability of Shot put (female) in public the secondary school had indicated that they had strongly disagreed and disagreed on the availability of Shot put (female) in public the secondary schools respectively. In the same way 2(6.89%) and 9(31.03%) responses of students on availability of Shot put (female) in the private schools had indicated that they had disagreed and partially agreed on the availability of Shot put (female) in private schools respectively. However 13 (44.82%) and 5(17.24%) responses of students on availability of Shot put (female) in the private schools had indicated that they had agreed and strongly agreed on availability of Shot put (female) in the private schools. The mean scores of responses in private and public secondary schools had indicated 3.65 and 1.38 respectively. This implies that availability of Shot put (female) in the private schools is more than the public secondary schools according to the significance responses that had been collected from both private and public secondary schools.

The sixth item was designed to assess the availability of Discuss (male) in public and private the secondary schools. 180(68.70%), 42(16.03%) and 40(15.26%) responses of students on availability of Discuss (male) in public the secondary school had indicated that they had strongly disagreed and disagreed on the availability of Discuss (male) in public the secondary schools respectively. In the same way 4 (13.79%), 8(27.58%) and 9(31.03%) responses of students on availability of Discuss (male) in the private schools had indicated that they had disagreed and partially agreed on the availability of Discuss (male) in private schools respectively. However 5(17.24%) and 3(10.34%) responses of students on availability of Discuss (male) in the private schools had indicated that they had agreed and strongly agreed on availability of Discuss (male) in the private schools. The mean scores of responses in private and public secondary schools had indicated 2.82 and 1.46 respectively. This implies that availability of Discuss (male) in the private schools is more than the public secondary schools according to the significance responses that had been collected from both private and public secondary schools.

The Seventh item was designed to assess the availability of pairs of high jump stands in public and private the secondary schools. 150 (57.25%),92(35.11%) and 20(7.63%) responses of students on availability of pairs of high jump stands in public the secondary schools had indicated that they had strongly disagreed and disagreed on the availability of pairs of high jump stands in public the secondary schools respectively. In the same way 3 (10.34%), 1(3.44%) and 12(41.37%) responses of students on availability of pairs of high jump stands in the private schools had indicated that they had disagreed and partially agreed on the availability of pairs of high jump stands in private schools respectively. However9( 31.09%)and 4(13.79%) responses of students on availability of pairs of high jump stands in the private schools had indicated that they had agreed and strongly agreed on availability of pairs of high jump stands in the private schools. The mean scores of responses in private and public secondary schools had indicated 3.03 and 1.73 respectively. This implies that availability of pairs of high jump stands in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

.The eight item was designed to assess the availability of Aluminum cross bar are available in the secondary schools in public and private the secondary schools.180(68.70%),42(16.03%) and 40(15.26%) responses of students on availability of Aluminum cross bar in public the secondary schools had indicated that they had strongly disagreed , disagreed agreed and partially agreed on the availability of Aluminum cross bar in public the secondary schools respectively. In the same way 4(13.79%),8(27.58%), and 9(31.03%) responses of students on availability of Aluminum cross bar in the private schools had indicated that they had strongly disagreed, disagreed and partially agreed on the availability of Aluminum cross bar in private schools respectively. However 5(17.24%) and 3(10.34%) responses of students on availability of Aluminum cross bar in the private schools had indicated that they had agreed and strongly agreed on availability of Aluminum cross bar in the private schools. The mean scores of responses in private and public secondary schools had indicated 2.82 and 1.46 respectively. This implies that availability of Aluminum cross bar in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The ninth item was designed to assess the availability of Landing foams for high jump and pole vault 40pairs are available in the secondary school in public and private the secondary schools.190(72.51%),50(19.08%) and 22(8.39%) responses of students on availability of Landing foams in public the secondary schools had indicated that they had strongly disagreed and disagreed on the availability of Landing foams in public the secondary schools respectively. In the same way 7(24.13%) responses of students on availability of Landing foams in the private schools had indicated that they had partially agreed on the availability of Landingfoams in private schools respectively. However 14(48.27%) and 8(27.58%) responses of students on availability of Landing foams in the private schools had indicated that they had agreed and strongly agreed on availability of Landing foams in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.03 and 1.35 respectively. This implies that availability ofLanding foams in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The tenth item was designed to assess the availability of Exchange batons in public secondary schools and private the secondary schools.160(61.06%),82(31.29%) and 22(8.39%)responses of students on availability of Exchange batons in public the secondary schoolshad indicated thatthey had strongly disagreed and disagreed on theavailability ofExchange batonsin public the secondary schools respectively. In the same way 7(24.13%) responses of students on availability ofExchange batonsin theprivate schools had indicated that they had disagreed and partially agreed on theavailability of Exchange batonsin private schools respectively.However14(48.27%) and 8(27.58%) responses of students on availability ofExchange batonsin theprivate schools had indicated that they hadagreed and strongly agreed on availability ofExchange batonsin theprivate schools.The mean scores of responses in private and public secondary schools had indicated 4.03 and 1.46 respectively.This implies that availability of intheprivate schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The eleventh item was designed to assess the availability of Hurdle stands 60pairs in public and private the secondary schools.160(61.06%),80(30.53%) and 20(7.63%)responses of students on availability ofHurdle stands 60pairs in public the secondary schoolshad indicated thatthey had strongly disagreed and disagreed on theavailability of Hurdle stands 60pairsin public the

secondary schools respectively. In the same way 3(10.34%),14(48.27%) and 9(31.03%) responses of students on availability of Hurdle stands 60pairs in the private schools had indicated that they had disagreed and partially agreed on the availability of Hurdle stands 60pairs in private schools respectively. However 1(3.44%) and 2(6.89%) responses of students on availability of Hurdle stands 60pairs in the private schools had indicated that they had agreed and strongly agreed on availability of in the private schools. The mean scores of responses in private and public secondary schools had indicated 2.48 and 1.47 respectively. This implies that Hurdle stands 60pairs were not available in the private schools and the public schools according to the significance responses that had been collected from both private and public secondary schools.

**Table 13.** Physical education instructional playing ground available both in the government and private secondary schools.

No	Items	Items of choices	Public school students				Private school students				Differences		
			Responses				Responses						
			F	%	Mean	STD	F	%	Mean	STD	%	Mean	STD
D	Available of BALL GAMES												
1	Soccer balls are available in the secondary school	SD	120	45.80	0.45	0.022	-	-	-	-	45.80	0.45	0.022
		DA	142	54.19	0.54	0.027	-	-	-	-	54.19	0.54	0.027
		PA	-	-	-	-	2	6.89	0.20	0.010	6.89	0.20	0.010
		AG	-	-	-	-	15	51.72	2.06	0.103	51.72	2.06	0.103
		SA	-	-	-	-	12	41.37	2.06	0.103	41.37	2.06	0.103
		Total	262	100	1.54	0.077	29	100	4.34	0.217	-	2.80	0.140
2	Handballs (male) are available in the secondary school	SD	140	53.43	1.45	7.28	-	-	-	-	53.43	1.45	7.28
		DA	60	22.90	0.45	0.022	-	-	-	-	22.90	0.45	0.022
		PA	62	23.66	0.94	0.047	5	17.24	0.51	0.025	6.42	0.43	0.022
		AG	-	-	-	-	15	51.72	2.06	0.103	51.72	2.06	0.103
		SA	-	-	-	-	9	31.03	1.55	0.077	31.03	1.55	0.077
		Total	262	100	1.63	0.081	29	100	4.13	0.206	-	2.50	0.125
3	Handballs (female) are available	SD	120	45.80	0.45	0.022	-	-	-	-	45.80	0.45	0.022
		DA	80	30.53	0.61	0.030	-	-	-	-	30.53	0.61	0.030
		PA	62	23.66	0.94	0.047	5	17.24	0.51	0.025	6.42	0.43	0.022
		AG	-	-	-	-	15	51.72	2.06	0.103	51.72	2.06	0.103

	in the secondary school	SA	-	-	-	-	9	31.03	1.55	0.077	31.03	1.55	0.077
		Total	262	100	1.77	0.088	29	100	4.13	0.206	-	2.36	0.118
4	Volley balls are available in the secondary school	SD	72	27.48	0.27	0.013	-	-	-	-	27.48	0.27	0.013
		DA	90	34.35	0.68	0.034	-	-	-	-	34.35	0.68	0.034
		PA	100	38.16	1.14	0.057	5	17.24	0.51	0.025	20.92	0.63	0.032
		AG	-	-	-	-	15	51.72	2.06	0.103	51.72	2.06	0.103
		SA	-	-	-	-	9	31.03	1.55	0.077	31.03	1.55	0.077
		Total	262	100	1.72	0.086	29	100	4.13	0.206	-	2.41	0.120
5	Basket balls (male) are available in the secondary school	SD	140	53.43	1.45	0.072	1	3.44	0.03	0.001	49.99	1.42	0.071
		DA	62	23.66	0.47	0.023	1	3.44	0.06	0.003	20.22	0.41	0.020
		PA	60	22.90	0.68	0.034	8	27.58	0.82	0.041	4.59	0.14	0.007
		AG	-	-	-	-	14	48.27	1.93	0.096	48.27	1.93	0.096
		SA	-	-	-	-	5	17.24	0.86	0.043	17.24	0.86	0.043
		Total	262	100	1.69	0.084	29	100	3.72	0.186	-	2.03	0.102
6	Basket balls (female) are available in the secondary school	SD	162	61.83	0.61	0.030	-	-	-	-	61.83	0.61	0.030
		DA	40	15.26	0.30	0.015	1	3.44	0.06	0.003	11.82	0.24	0.012
		PA	60	22.90	0.68	0.034	8	27.58	0.82	0.041	4.68	0.14	0.007
		AG	-	-	-	-	14	48.27	1.93	0.096	48.27	1.93	0.096
		SA	-	-	-	-	6	20.68	1.03	0.051	20.68	1.03	0.051
		Total	262	100	1.61	0.080	29	100	3.86	0.193	-	2.25	0.113
7	Hockey balls are available in the secondary school	SD	180	68.70	0.68	0.034	8	27.58	0.27	0.013	41.12	0.41	0.021
		DA	42	16.03	0.32	0.016	16	55.17	1.10	0.055	39.14	0.78	0.039
		PA	40	15.26	0.45	0.022	2	6.89	0.20	0.010	8.37	0.25	0.012
		AG	-	-	-	-	-	-	-	-	-	-	-
		SA	-	-	-	-	3	10.34	0.51	0.025	10.34	0.51	0.025
		Total	262	100	1.46	0.073	29	100	1.93	0.096	-	0.47	0.023
8	Table tennis eggs are available in the secondary school	SD	190	72.51	0.72	0.036	-	-	-	-	72.51	0.72	0.036
		DA	52	19.84	0.39	0.019	3	10.34	0.20	0.010	9.50	0.19	0.009
		PA	20	7.63	0.22	0.011	9	31.03	0.93	0.046	23.40	0.71	0.035
		AG	-	-	-	-	12	41.37	1.65	0.082	41.37	1.65	0.082
		SA	-	-	-	-	5	17.24	0.86	0.043	17.24	0.86	0.043
		Total	262	100	1.35	0.067	29	100	3.65	0.182	-	2.30	0.115



**Table 14.**Aggregate mean result for the above eight items

Item	Type of schools	mean	Standard deviation	Mean difference	T-test	Significance
Availability of Ball Games	Private	3.74	0.186	2.140	0.993	0.5
	government	1.59	0.079			

Aggregate data are data combined from several measurements. When data are aggregated, the responses that had been collected and analyzed in mean for each item on the basis of the sample respondents responses from the private and government secondary schools were summarize. Mean difference is the result of aggregate mean score of the private secondary schools subtracting from the result of aggregate mean score of the government secondary schools. A t-test is an analysis framework used to determine the difference between the private and government school sample means. The aggregate mean score of the private was 3.74 and the aggregate mean score of the government was 1.59 and the mean difference was 2.140. The t-test was 0.993 and there was significant difference.

Eight items were designed in the above table 4.2.4.d. to collect data on ball games physical education instructional playing ground available both in the government and private secondary schools. The collected data were analyzed and presented with meaningful conclusions as follows.

The first item was designed to assess the availability of Soccer balls in public and private the secondary schools. 120 (45.80%) and 142 (54.19%) responses of students on availability of Soccer balls in public the secondary school had indicated that they had strongly disagreed and disagreed on the availability of Soccer balls in public the secondary schools respectively. However 2 (6.89%), 15 (51.72%) and 12 (41.37%) responses of students on availability of Soccer balls in the private schools had indicated that they had partially agreed, agreed and strongly agreed on availability of Soccer balls in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.34 and 1.54 respectively. This implies that availability of in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The second item was designed to assess the availability of Handballs (male) in public and private the secondary schools. 140 (53.43%), 60 (22.90%) and 62 (23.66%) responses of students on availability of Handballs (male) in public the secondary school had indicated that they had

strongly disagreed and disagreed on the availability of Handballs (male) in public the secondary schools respectively. However, 5(17.24%), 15(51.72%) and 9(31.03%) responses of students on availability of Handballs (male) in the private schools had indicated that they had partially agreed, agreed and strongly agreed on availability of Handballs (male) in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.13 and 1.63 respectively. This implies that availability of in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The third item was designed to assess the availability of Handballs (female) in public and private the secondary schools. 120(45.80%), 80(30.53%) and 62(23.66%) responses of students on availability of Handballs (female) in public the secondary school had indicated that they had strongly disagreed, disagreed and partially agreed on the availability of Handballs (female) in public the secondary schools respectively. However, 5(17.24%), 15(51.72%) and 9(31.03%) responses of students on availability of Handballs (female) in the private schools had indicated that they had partially agreed, agreed and strongly agreed on availability of Handballs (female) in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.13 and 1.77 respectively. This implies that availability of in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The fourth item was designed to assess the availability of Volley balls in public and private the secondary schools. 120(45.80%), 80(30.53%) and 62(23.66%) responses of students on availability of Volley balls in public the secondary school had indicated that they had strongly disagreed and disagreed on the availability of Volley balls in public the secondary schools respectively. However 5(17.24%), 15(51.72%) and 9(31.03%) responses of students on availability of Volley balls in the private schools had indicated that they had agreed and strongly agreed on availability of Volley balls in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.13 and 1.77 respectively. This implies that availability of in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The fifth item was designed to assess the availability of Basket balls (male) in public and private the secondary schools. 140(61.06%), 62(31.29%) and 60(8.39%) responses of students

onavailability ofBasket balls (male) in public the secondary schoolshad indicated thatthey had strongly disagreed and disagreed and partially agreed on theavailability ofExchange batonsin public the secondary schools respectively. However,8(27.58%),14(48.27%) and 5(17.24%) responses of students onavailability ofBasket balls (female)in theprivate schools had indicated that they had partially agreed,agreed and strongly agreed onavailability ofBasket balls (female)in theprivate schools.The mean scores of responses in private and public secondary schools had indicated 3.72 and 1.69 respectively.This implies that availability ofBasket balls (male) in theprivate schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The sixth item was designed tothe availability ofBasket balls (female)inpublic and private the secondary schools.162(61.83%),40(15.26%) and 60(22.90%)responses of students onavailability ofBasket balls (female) in public the secondary schoolshad indicated thatthey had strongly disagreed, disagreed and partially agreed on theavailability ofBasket balls (female) in publicthe secondary schools respectively. However,8(27.58%),14(48.27%) and 6(20.68%)responses of students onavailability ofBasket balls (female)in theprivate schools had indicated that they had partially agreed, agreed and strongly agreed onavailability ofBasket balls (female)in theprivate schools.The mean scores of responses in private and public secondary schools had indicated 3.86 and 1.61 respectively.This implies that availability ofBasket balls (female) in theprivate schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The seventh item was designed to assess the availability ofHockey ballsinpublic and private the secondary schools.180(68.70%),42(16.03%) and 40(15.26%)responses of students onavailability ofHockey balls in public the secondary schoolshad indicated thatthey had strongly disagreed, disagreed and partially agreed on theavailability ofHockey ballsin public the secondary schools respectively. In the same way 8(27.58%),16(55.17%) and 2(6.89%)responses of students onavailability ofHockey ballsin theprivate schools had indicated that they had strongly disagreed, disagreed and partially agreed on theavailability of in private schools respectively.However, 3(10.34%) responses of students onavailability ofHockey ballsin theprivate schools had indicated that they had strongly agreed onavailability ofHockey ballsin theprivate schools.The mean scores of responses in private and public secondary schools had indicated 1.93 and 1.46 respectively.This implies thatHockey balls were not available of in

the private schools and the public schools according to the significance responses that had been collected from both private and public secondary schools.

The eighth item was designed to assess the availability of Table tennis eggs in public and private the secondary schools. 190(72.51%), 52(19.84%) and 20(7.63%) responses of students on availability of Table tennis eggs in public the secondary school had indicated that they had strongly disagreed and disagreed on the availability of Table tennis eggs in public the secondary schools respectively. In the same way 3(10.34%) and 9(31.03%) responses of students on availability of Table tennis eggs in the private schools had indicated that they had disagreed and partially agreed on the availability of Table tennis eggs in private schools respectively. However, 12(41.37%) and 5(17.24%) responses of students on availability of Table tennis eggs in the private schools had indicated that they had agreed and strongly agreed on availability of Table tennis eggs in the private schools. The mean scores of responses in private and public secondary schools had indicated 3.65 and 1.35 respectively. This implies that availability of in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

**Table 15.** Physical education instructional playing ground available both in the government and private secondary schools.

No	Items	Items of choices	Public school students				Private school students				Differences		
			Responses				Responses						
			F	%	Mean	STD	F	%	Mean	STD	%	Mean	STD
<b>E</b>	<b>Available of RACKET GAMES</b>												
<b>1</b>	Tennis rackets are available in the secondary school	<b>SD</b>	100	38.16	0.38	0.019	-	-	-	-	38.16	0.38	0.019
		<b>DA</b>	162	61.83	1.23	0.061	-	-	-	-	61.83	1.23	0.061
		<b>PA</b>	-	-	-	-	-	-	-	-	-	-	-
<b>2</b>	Hockey	<b>SD</b>	162	61.83	0.61	0.030	14	48.27	0.40	0.024	13.56	0.21	0.006

	sticks are available in the secondary school	<b>DA</b>	100	38.16	0.76	0.038	15	51.72	0.48	0.024	13.56	0.28	0.014	
		<b>PA</b>	-	-	-	-	-	-	-	-	-	-	-	-
		<b>AG</b>	-	-	-	-	-	-	-	-	-	-	-	-
		<b>SA</b>	-	-	-	-	-	-	-	-	-	-	-	-
		<b>Total</b>	262	100	1.77	0.088	29	100	1.51	0.075	-	0.26	0.013	
<b>3</b>	Table tennis bats are available in the secondary school	<b>SD</b>	-	-	-	-	-	-	-	-	-	-	-	
		<b>DA</b>	100	38.16	0.76	0.038	-	-	-	-	38.16	0.76	0.038	
		<b>PA</b>	162	61.83	1.85	0.092	-	-	-	-	61.83	1.85	0.092	
		<b>AG</b>	-	-	-	-	14	48.27	1.44	0.072	48.27	1.44	0.072	
		<b>SA</b>	-	-	-	-	15	51.72	2.58	0.129	51.72	2.58	0.129	
<b>Total</b>	262	100	2.23	0.111	29	100	4.00	0.200	-	1.77	0.089			
<b>4</b>	Hockey keeper kats 2 sets are available in the secondary school	<b>SD</b>	162	61.83	0.61	0.030	15	51.72	0.51	0.025	10.11	0.10	0.005	
		<b>DA</b>	100	38.16	0.76	0.038	14	48.27	0.96	0.048	10.11	0.20	0.010	
		<b>PA</b>	-	-	-	-	-	-	-	-	-	-	-	
		<b>AG</b>	-	-	-	-	-	-	-	-	-	-	-	
		<b>SA</b>	-	-	-	-	-	-	-	-	-	-	-	
		<b>Total</b>	262	100	1.38	0.069	29	100	1.48	0.074	-	0.10	0.005	

**Table 16.**Aggregate mean result for the above Four items

Item	Type of schools	Mean	Standard deviation	Mean difference	T-test	Significance
Availability of Racket Game	Private	2.74	0.137	1.292	0.789	0.5
	government	1.78	0.089			

Aggregate data are data combined from several measurements. When data are aggregated, the responses that had been collected and analyzed in mean for each item on the basis of the sample respondents responses from the private and government secondary schools were summarize. Mean difference is the result of aggregate mean score of the private secondary schools subtracting from the result of aggregate mean score of the government secondary schools. A t-test is an analysis framework used to determine the difference between the private and government school sample means. The aggregate mean score of the private was 2.74 and the aggregate mean

score of the government was 1.78 and the mean difference was 1.292. The t-test was 0.789 and there was significant difference.

Four items were designed in the above table 4.2.4.E. to collect data on racket games physical education instructional materials available both in the government and private secondary schools. The collected data were analyzed and presented with meaningful conclusions as follows.

The first item was designed to assess the availability of Tennis rackets in public and private secondary schools. 100(38.16%) and 162(61.83%) responses of students on availability of Tennis rackets in public secondary schools had indicated that they had strongly disagreed and disagreed on the availability of Tennis rackets in public secondary schools respectively. However 15(51.72%) and 14(48.24%) responses of students on availability of Tennis rackets in private schools had indicated that they had agreed and strongly agreed on availability of Tennis rackets in private schools. The mean scores of responses in private and public secondary schools had indicated 4.00 and 1.77 respectively. This implies that availability of in private schools is more than the public schools according to the significance responses that had been collected from both private secondary schools and public secondary schools.

The second item was designed to assess the availability of Hockey sticks in public secondary schools and private secondary schools. 162(61.83%) and 100(38.16%) responses of students on availability of Hockey sticks in public secondary schools had indicated that they had strongly disagreed and disagreed on the availability of Hockey sticks in public secondary schools respectively. In the same way 14(48.27%) and 15(51.72%) responses of students on availability of Hockey sticks in private schools had indicated that they had strongly disagreed and disagreed on the availability of Hockey sticks in private schools respectively. The mean scores of responses in private secondary schools and public secondary schools had indicated 1.51 and 1.77 respectively. This implies that Hockey sticks were not available of in private schools and the public secondary schools according to the significance responses that had been collected from both private and public secondary schools.

The third item was designed to assess the availability of Table tennis bats in public secondary schools and private secondary schools. 100(38.16%) and 162(61.83%) responses of students on availability of Table tennis bats in public secondary schools had indicated that they had strongly disagreed and disagreed on the availability of Table tennis bats in public secondary

schools respectively. However, 14(48.27%) and 15(51.72%) responses of students on availability of Table tennis bats in the private schools had indicated that they had agreed and strongly agreed on availability of Table tennis bats in the private schools. The mean scores of responses in private secondary schools and public secondary schools had indicated 4.00 and 2.23 respectively. This implies that availability of in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The fourth item was designed to assess the availability of Hockey keeper karts 2 sets in public and private the secondary schools. 162(61.83%) and 100(38.16%) responses of students on availability of Hockey keeper karts 2 sets in public the secondary schools had indicated that they had strongly disagreed and disagreed on the availability of Hockey keeper karts 2 sets in public the secondary schools respectively. In the same way 15(51.72%) and 14(48.27%) responses of students on availability of Hockey keeper karts 2 sets in the private schools had indicated that they had disagreed and partially agreed on the availability of Hockey keeper karts 2 sets in private schools respectively. The mean scores of responses in private and public secondary schools had indicated 1.48 and 1.38 respectively. This implies that Hockey keeper karts 2 sets were not available of in the private schools and the public schools according to the significance responses that had been collected from both private secondary schools and public secondary schools.

**Table 17.** Physical education instructional materials available both in the government and private secondary schools.

No	Items	Items of choices	Public school students				Private school students				Differences		
			Responses				Responses						
			F	%	Mean	STD	F	%	Mean	STD	%	Mean	STD
<b>F</b>	<b>GENERAL SUPPLIES FOR ALL SPORTS</b>												
<b>1</b>	Available of Stop watches are in the secondary school	<b>SD</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>DA</b>	162	61.83	1.23	0.061	-	-	-	-	61.83	1.23	0.061
		<b>PA</b>	100	38.16	1.14	0.057	-	-	-	-	38.16	1.14	0.057
		<b>AG</b>	-	-	-	-	22	75.86	3.03	0.151	75.86	3.03	0.151
		<b>SA</b>	-	-	-	-	7	24.13	1.20	0.060	24.13	1.20	0.060
		<b>Total</b>	262	100	2.38	0.119	29	100	4.24	0.212	-	1.86	0.093

<b>2</b>	Tape measures are available in the secondary school	<b>SD</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>DA</b>	80	30.53	0.61	0.030	-	-	-	-	30.53	0.61	0.030
		<b>PA</b>	182	69.46	2.08	0.104	-	-	-	-	69.46	2.08	0.104
		<b>Total</b>	262	100	2.69	0.134	29	100	4.17	0.208	-	1.48	0.074
<b>3</b>	Weighing scales are available in the secondary school	<b>SD</b>	100	38.16	0.38	0.019	-	-	-	-	38.16	0.38	0.019
		<b>DA</b>	162	61.83	1.23	0.061	-	-	-	-	61.83	1.23	0.061
		<b>PA</b>	-	-	-	-	23	79.31	2.37	0.118	79.31	2.37	0.118
		<b>AG</b>	-	-	-	-	6	20.68	0.82	0.041	20.68	0.82	0.041
		<b>SA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>Total</b>	262	100	1.61	0.080	29	100	3.41	0.170	-	1.80	0.090
<b>4</b>	Maintenance equipment For all sports are available in the secondary school	<b>SD</b>	162	61.83	0.61	0.030	-	-	-	-	61.83	0.61	0.030
		<b>DA</b>	100	38.16	0.76	0.038	-	-	-	-	38.16	0.76	0.038
		<b>PA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>AG</b>	-	-	-	-	14	48.27	1.93	0.096	48.27	1.93	0.096
		<b>SA</b>	-	-	-	-	15	51.72	2.58	0.129	51.72	2.58	0.129
		<b>Total</b>	262	100	1.38	0.069	29	100	4.51	0.225	-	3.13	0.156
<b>5</b>	Whistle (all kinds) are available in the secondary school	<b>SD</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>DA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>PA</b>	80	30.53	0.91	0.045	-	-	-	-	30.53	0.91	0.045
		<b>AG</b>	182	69.46	2.77	0.138	15	51.72	2.06	0.103	17.74	0.71	0.035
		<b>SA</b>	-	-	-	-	14	48.27	2.41	0.120	48.27	2.41	0.120
		<b>Total</b>	262	100	3.69	0.184	29	100	4.48	0.224	-	0.79	0.040
<b>6</b>	First Aid boxes are available in the secondary school	<b>SD</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>DA</b>	180	68.70	1.37	0.068	-	-	-	-	68.70	1.37	0.068
		<b>PA</b>	82	31.29	0.93	0.046	-	-	-	-	31.29	0.93	0.046
		<b>AG</b>	-	-	-	-	24	82.35	3.31	0.165	82.35	3.31	0.165
		<b>SA</b>	-	-	-	-	5	17.24	0.86	0.043	17.24	0.86	0.043
		<b>Total</b>	262	100	2.31	0.115	29	100	4.17	0.208	-	1.86	0.093
<b>7</b>	Multi gym are available in the secondary school	<b>SD</b>	180	68.70	0.68	0.034	-	-	-	-	68.70	0.68	0.034
		<b>DA</b>	82	31.29	0.62	0.031	-	-	-	-	31.29	0.62	0.031
		<b>PA</b>	-	-	-	-	10	34.48	1.03	0.051	34.48	1.03	0.051
		<b>AG</b>	-	-	-	-	19	65.51	2.62	0.131	65.51	2.62	0.131
		<b>SA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>Total</b>	262	100	1.31	0.065	29	100	3.65	0.182	-	2.34	0.117



**Table 18.**Aggregate mean result for the above Seven items

Item	Type of schools	mean	Standard deviation	Mean difference	T-test	Significance
Availability of General supplies for all sport	Private	2.77	0.204	1.894	0.862	0.5
	government	2.19	0.109			

Aggregate data are data combined from several measurements. When data are aggregated, the responses that had been collected and analyzed in mean for each item on the basis of the sample respondents responses from the private and government secondary schools were summarize. Mean difference is the result of aggregate mean score of the private secondary schools subtracting from the result of aggregate mean score of the government secondary schools. A t-test is an analysis framework used to determine the difference between the private and government school sample means. The aggregate mean score of the private was 2.77 and the aggregate mean score of the government was 2.19 and the mean difference was 1.894 .The t-test was 0.862 and there was significant difference.

Seventh items were designed in the above table 4.2.4.F. to collect data on general supplies for all sports physical education instructional materials available both in the government and private secondary schools. The collected data were analyzed and presented with meaningful conclusions as follows.

The first item was designed to assess the availability of Stop watches in public secondary schools and private the secondary schools. 162(61.83%) and 100(38.16%) responses of students on availability of Stop watches in public the secondary schoolshad indicated that they had strongly disagreed and disagreed on the availability of Stop watches in public the secondary schools respectively. However, 22(75.86%) and 7(24.13%) responses of students on availability of Stop watches in the private schools had indicated that they had agreed and strongly agreed on availability of Stop watches in the private schools. The mean scores of responses in private secondary schools and public secondary schools had indicated 4.24 and 2.38 respectively. This

implies that availability of in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The second item was designed to assess the availability of Tape measures in public and private the secondary schools. 80(30.53%) and 182(69.46%) responses of students on availability of Tape measures in public the secondary school had indicated that they had disagreed and partially disagreed on the availability of Tape measures in public the secondary schools respectively. However, 24(82.35%) and 5(17.24%) responses of students on availability of Tape measures in the private schools had indicated that they had agreed and strongly agreed on availability of Tape measures in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.17 and 2.69 respectively. This implies that availability of in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The third item was designed to assess the availability of weighing scales in public secondary schools and private the secondary schools. 100(38.16%) and 162(61.83%) responses of students on availability of Weighing scales in public the secondary school had indicated that they had strongly disagreed and disagreed on the availability of Weighing scales in public the secondary schools respectively. However, 23(79.3 %) and 6(20.68%) responses of students on availability of Weighing scales in the private schools had indicated that they had agreed and strongly agreed on availability of Weighing scales in the private schools. The mean scores of responses in private and public secondary schools had indicated 3.41 and 1.61 respectively.

This implies that availability of in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The fourth item was designed to assess the availability of Maintenance equipment for all sports in public secondary schools and private the secondary schools. 162(61.83%) and 100(38.16%) responses of students on availability of Maintenance equipment For all sports in public the secondary school had indicated that they had strongly disagreed and disagreed on the availability of Maintenance equipment For all sports in public the secondary schools respectively. However 14(48.27%) and 15(51.72%) responses of students on availability of Maintenance equipment in the private schools had indicated that they had agreed and strongly

agreed on availability of Maintenance equipment For all sports in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.51 and 1.38 respectively. This implies that availability of in the private schools is more than the public schools according to the significance responses that had been collected from both private secondary schools and public secondary schools.

The fifth item was designed to assess the availability of Whistle (all kinds) in public secondary schools and private the secondary schools. 80(30.53%) and 182(69.46%) responses of students on availability of Whistle (all kinds) in public the secondary school had indicated that they had strongly partially agreed and agreed on the availability of Whistle (all kinds) in public the secondary schools respectively. However, 15(51.72%) and 14(48.27%) responses of students on availability of Whistle (all kinds) in the private schools had indicated that they had agreed and strongly agreed on availability of Whistle (all kinds) in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.48 and 3.69 respectively. This implies that availability of in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The sixth item was designed to the availability of First Aid boxes in the secondary schools in public and private the secondary schools. 182(69.46%) and 80(30.53%) responses of students on availability of First Aid boxes in public the secondary school had indicated that they had strongly disagreed and disagreed on the availability of First Aid boxes in public the secondary schools respectively. However, 24(82.35%) and 5(17.24%) responses of students on availability of First Aid boxes in the private schools had indicated that they had agreed and strongly agreed on availability of First Aid boxes in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.17 and 2.31 respectively. This implies that availability of in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The seventh item was designed to assess the availability of Multi gym in public and private the secondary schools. 180(68.70%) and 82(31.29%) responses of students on availability of Multi gym in public the secondary school had indicated that they had strongly disagreed and disagreed on the availability of Multi game in public the secondary schools respectively. However, 10(34.48%) and 19(65.51%) responses of students on availability of Multi gym in the private schools had indicated that they had agreed and strongly agreed on availability

of Multi gym in the private schools. The mean scores of responses in private and public secondary schools had indicated 3.65 and 1.31 respectively. This implies that availability of in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

**Table 19.** Instructional playing ground that which have properly been utilized in physical education practical class in schools.

No	Items	Items of choices	Public school students				Private school students				Differences		
			Responses				Responses						
			F	%	Mean	STD	F	%	Mean	STD	%	Mean	STD
<b>A</b>	<b>utilization of playground</b>												
<b>1</b>	Football court has been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	162	61.83	0.61	0.030	-	-	-	-	34.48	1.03	0.051
		<b>DA</b>	100	38.16	0.76	0.038	-	-	-	-	65.51	2.62	0.131
		<b>PA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>AG</b>	-	-	-	-	14	48.27	1.93	0.096	48.27	1.44	0.072
		<b>SA</b>	-	-	-	-	15	51.72	2.58	0.129	51.72	2.58	0.129
		<b>Total</b>	262	100	1.38	0.069	29	100	4.51	0.225	-	3.13	0.156
<b>2</b>	Basketball court has been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	182	69.46	0.69	0.034	-	-	-	-	69.46	0.69	0.034
		<b>DA</b>	80	30.53	0.61	0.030	-	-	-	-	30.53	0.61	0.030
		<b>PA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>AG</b>	-	-	-	-	14	48.27	1.93	0.096	48.27	1.44	0.072
		<b>SA</b>	-	-	-	-	15	51.72	2.58	0.129	51.72	2.58	0.129
		<b>Total</b>	262	100	1.30	0.065	29	100	4.51	0.225	-	3.21	0.160

<b>3</b>	Volleyball court has been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	162	61.83	0.61	0.030	-	-	-	-	38.16	0.76	0.038
		<b>DA</b>	100	38.16	0.76	0.038	-	-	-	-	38.16	0.76	0.038
		<b>PA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>AG</b>	-	-	-	-	14	48.27	1.93	0.096	48.27	1.44	0.072
		<b>SA</b>	-	-	-	-	15	51.72	2.58	0.129	51.72	2.58	0.129
		<b>Total</b>	262	100	1.38	0.069	29	100	4.51	0.225	-	3.13	0.156
<b>4</b>	Handball court has been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	182	69.46	0.69	0.034	-	-	-	-	69.46	0.69	0.034
		<b>DA</b>	80	30.53	0.61	0.030	-	-	-	-	30.53	0.61	0.030
		<b>PA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>AG</b>	-	-	-	-	14	48.27	1.93	0.096	48.27	1.44	0.072
		<b>SA</b>	-	-	-	-	15	51.72	2.58	0.129	51.72	2.58	0.129
		<b>Total</b>	262	100	1.31	0.065	29	100	4.51	0.225	-	3.20	0.160
<b>5</b>	Badminton court has been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	162	61.83	0.61	0.030	-	-	-	-	61.83	0.61	0.030
		<b>DA</b>	100	38.16	0.76	0.038	-	-	-	-	38.16	0.76	0.038
		<b>PA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>AG</b>	-	-	-	-	14	48.27	1.93	0.096	48.27	1.44	0.072
		<b>SA</b>	-	-	-	-	15	51.72	2.58	0.129	51.72	2.58	0.129
		<b>Total</b>	262	100	1.38	0.069	29	100	4.51	0.225	-	3.13	0.156
<b>6</b>	Tennis court has been utilized in the secondary school for the practical class in the physical	<b>SD</b>	182	69.46	0.69	0.034	-	-	-	-	69.46	0.69	0.034
		<b>DA</b>	80	30.53	0.61	0.030	-	-	-	-	30.53	0.61	0.030
		<b>PA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>AG</b>	-	-	-	-	14	48.27	1.93	0.096	48.27	1.44	0.072
		<b>SA</b>	-	-	-	-	15	51.72	2.58	0.129	51.72	2.58	0.129
		<b>Total</b>	262	100	1.31	0.065	29	100	4.51	0.225	-	3.20	0.160
<b>7</b>	Large indoor	<b>SD</b>	182	69.46	0.69	0.034	-	-	-	-	69.46	0.69	0.034

	teaching space of 40m x 50m, for Gymnastics has been utilized in the secondary school for the practical class in the physical education			46						6			
		<b>DA</b>	80	30.53	0.61	0.030	-	-	-	-	30.53	0.61	0.030
		<b>PA</b>	-	-	-	-	13	44.82	1.34	0.067	44.82	1.34	0.067
		<b>AG</b>	-	-	-	-	16	55.17	2.20	0.110	55.17	2.20	0.110
		<b>SA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>Total</b>	262	100	1.31	0.065	29	100	4.10	0.205	-	2.79	0.140
<b>8</b>	Swimming pool has been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	182	69.46	0.69	0.034	15	51.72	0.51	0.025	17.74	0.18	0.009
		<b>DA</b>	80	30.53	0.61	0.030	14	48.27	0.96	0.048	17.74	0.35	0.018
		<b>PA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>AG</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>SA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>Total</b>	262	100	1.31	0.065	29	100	1.48	0.074	-	0.17	0.009

**Table 20**Aggregate mean result for the above eight items

Item	Type of schools	mean	Standard deviation	Mean difference	T-test	Significance
utilization of playground	Private	4.08	0.203	2.755	0.998	0.5
	government	1.33	0.066			

Aggregate data are data combined from several measurements. When data are aggregated, the responses that had been collected and analyzed in mean for each item on the basis of the sample respondents responses from the private and government secondary schools were summarize. Mean difference is the result of aggregate mean score of the private secondary schools subtracting from the result of aggregate mean score of the government secondary schools. A t-test is an analysis framework used to determine the difference between the private and government school sample means. The aggregate mean score of the private was 4.08 and the aggregate mean score of the government was 1.33 and the mean difference was 2.755. The t-test was 0.998 and there was significant difference.

Eight items were designed in the above table 4.2.2A. to collect data on the utilization of playground physical education instructional playing ground available both in the government and private secondary schools. The collected data were analyzed and presented with meaningful conclusions as follows.

The first item was designed to assess the utilization of Football court for the practical class in the physical education in public and private the secondary schools. 162(61.83%) and 100(38.16%) responses of students on availability of Football court in public the secondary school had indicated that they had disagreed and partially disagreed on the availability of Football court public the secondary schools respectively. However, 14(48.27%) and 15(51.72%) responses of students on utilization of Football court in the private schools had indicated that they had agreed and strongly agreed on utilization of Football court in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.51 and 1.38 respectively. This implies that utilization of in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The second item was designed to assess the utilization of Basketball court for the practical class in the physical education in public and private the secondary schools. 182(69.46%) and 80(30.53%) responses of students on utilization of Basketball court in public the secondary school had indicated that they had disagreed and partially disagreed on the utilization of Basketball court in public the secondary schools respectively. However, 14(48.27%) and 15(51.72%) responses of students on utilization of Basketball court in the private schools had indicated that they had agreed and strongly agreed on utilization of Basketball court in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.51 and 1.30 respectively. This implies that utilization of in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The third item was designed to assess the utilization of Volleyball court for the practical class in the physical education in public and private the secondary schools. 162(61.83%) and 100(38.16%) responses of students on utilization of Volleyball court in public the secondary school had indicated that they had disagreed and partially disagreed on the utilization of Volleyball court in public the secondary schools respectively. However, 14(48.27%)

and 15 (51.72%) responses of students on utilization of Volleyball court in the private schools had indicated that they had agreed and strongly agreed on utilization of Volleyball court in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.51 and 1.38 respectively. This implies that utilization of in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The fourth item was designed to assess the utilization of Handball court in the secondary school for the practical class in the physical education in public and private the secondary schools. 182 (69.46%) and 80 (30.53%) responses of students on utilization of Handball court in public the secondary school had indicated that they had disagreed and partially disagreed on the utilization of Handball court in public the secondary schools respectively.

However, 14 (48.27%) and 15 (51.72%) responses of students on utilization of Handball court in the private schools had indicated that they had agreed and strongly agreed on utilization of Handball court in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.51 and 1.38 respectively. This implies that utilization of Handball court in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The fifth item was designed to assess the utilization of Badminton court for the practical class in the physical education in public and private the secondary schools. 162 (61.83%) and 100 (38.16%) responses of students on utilization of Badminton court in public the secondary school had indicated that they had disagreed and partially disagreed on the availability of Badminton court in public the secondary schools respectively. However, 14 (48.27%) and 15 (51.72%) responses of students on utilization of Badminton court in the private schools had indicated that they had agreed and strongly agreed on availability of Badminton court in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.51 and 1.31 respectively. This implies that utilization of in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The sixth item was designed to assess the utilization of Tennis table for the practical class in the physical in public and private the secondary schools. 182 (69.46%) and 80 (30.53%) responses of



students on utilization of Tennis table in public the secondary schools had indicated that they had disagreed and partially disagreed on the utilization of Tennis table in public the secondary schools respectively. However, 14(48.27%) and 15(51.72%) responses of students on utilization of Tennis table in the private schools had indicated that they had agreed and strongly agreed on utilization of Tennis table in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.51 and 1.31 respectively. This implies that availability of in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The seventh item was designed to assess the utilization of large indoor teaching space of 40m x 50m, for Gymnastics for the practical class in the physical education in public and private the secondary schools. 81(69.46%) and 0(30.53%) responses of students on utilization of large indoor teaching space of 40m x 50m, for Gymnastics in public the secondary schools had indicated that they had disagreed and partially disagreed on the utilization of large indoor teaching space of 40m x 50m, for Gymnastics in public the secondary schools respectively. However, 13(44.82%) and 16(55.17%) responses of students on utilization of large indoor teaching space of 40m x 50m, for Gymnastics in the private schools had indicated that they had agreed and strongly agreed on availability of large indoor teaching space of 40m x 50m, for Gymnastics in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.10 and 1.31 respectively. This implies that utilization of in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The eighth item was designed to assess the utilization of Swimming pool for the practical class in the physical education in public and private the secondary schools. 182(69.46%) and 80(30.53%) responses of students on utilization of Swimming pool in public the secondary schools had indicated that they had disagreed and partially disagreed on the utilization of Swimming pool in public the secondary schools respectively. In the same way, 15(51.72%) and 14(48.27%) responses of students on utilization of Swimming pool in the private schools had indicated that they had agreed and strongly agreed on utilization of Swimming pool in the private schools. The mean scores of responses in private and public secondary schools had indicated 1.48 and 1.31 respectively. This implies that Swimming pool was not utilized of in the private schools and the

public schools according to the significance responses that had been collected from both private and public secondary schools.

**Table 21.**Instructional materials that which have properly been utilized in physical educationpractical class in schools.

No	Items	Items of choices	Public school students				Private school students				Differences		
			Responses				Responses						
			F	%	Mean	STD	F	%	Mean	STD	%	Mean	STD
<b>B</b>	<b>Utilized of Gymnastic Tripod</b>												
<b>1</b>	Landing mats have been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	162	61.83	0.61	0.030	-	-	-	-	61.83	0.61	0.030
		<b>DA</b>	100	38.16	0.76	0.038	-	-	-	-	38.16	0.76	0.038
		<b>PA</b>	-	-	-	-	13	44.82	1.34	0.067	44.82	1.34	0.067
		<b>AG</b>	-	-	-	-	16	55.17	2.20	0.110	55.17	2.20	0.110
		<b>SA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>Total</b>	262	100	1.38	0.069	29	100	4.10	0.205	-	2.72	0.136
<b>2</b>	Gymnasium has been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	182	69.46	0.69	0.034	-	-	-	-	69.46	0.69	0.034
		<b>DA</b>	80	30.53	0.61	0.030	-	-	-	-	30.53	0.61	0.030
		<b>PA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>AG</b>	-	-	-	-	14	48.27	1.93	0.096	48.27	1.44	0.072
		<b>SA</b>	-	-	-	-	15	51.72	2.58	0.129	51.72	2.58	0.129
		<b>Total</b>	262	100	1.31	0.065	29	100	4.51	0.225	-	3.20	0.161
<b>3</b>	Storage	<b>SD</b>	-	-	-	-	-	-	-	-	-	-	

	room has been utilized in the secondary school for the practical class in the physical education	<b>DA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>PA</b>	80	30.53	0.91	0.045	-	-	-	-	30.53	0.91	0.045
		<b>AG</b>	182	69.46	2.77	0.138	14	48.27	1.93	0.096	48.27	1.44	0.072
		<b>SA</b>	-	-	-	-	15	51.72	2.58	0.129	51.72	2.58	0.129
		<b>Total</b>	262	100	3.69	0.184	29	100	4.51	0.225	-	0.82	0.041
<b>4</b>	6-8 lane athletic tracks have been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	162	61.68	0.61	0.030	-	-	-	-	61.68	0.61	0.030
		<b>DA</b>	100	38.16	0.76	0.038	-	-	-	-	38.16	0.76	0.038
		<b>PA</b>		-	-	-	13	44.82	1.34	0.067	44.82	1.34	0.067
		<b>AG</b>	-	-	-	-	16	55.17	2.20	0.110	55.17	2.20	0.110
		<b>SA</b>	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	262	100	1.38	0.069	29	100	4.10	0.205	-	2.72	0.136		
<b>5</b>	Take-off boards have been utilized in the secondary schools for the practical class in the physical education	<b>SD</b>	162	61.83	0.61	0.030	-	-	-	-	61.83	0.61	0.030
		<b>DA</b>	100	38.16	0.76	0.038	-	-	-	-	38.16	0.76	0.038
		<b>PA</b>	-	-	-	-	13	44.82	1.34	0.067	44.82	1.34	0.067
		<b>AG</b>	-	-	-	-	16	55.17	2.20	0.110	55.17	2.20	0.110
		<b>SA</b>	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	262	100	1.38	0.069	29	100	4.10	0.205	-	2.72	0.136		
<b>6</b>	Long benches have been utilized in	<b>SD</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>DA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>PA</b>	80	30.53	0.91	0.045	13	44.82	1.34	0.067	14.29	0.43	0.022
		<b>AG</b>	182	69.46	2.77	0.138	16	55.17	2.20	0.110	14.29	0.57	0.028

	the secondary school for the practical class in the physical education	<b>SA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>Total</b>	262	100	3.69	0.184	29	100	4.10	0.205	-	0.41	0.021
<b>7</b>	Agility mattresses have been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	162	61.83	0.61	0.030	-	-	-	-	61.83	0.61	0.030
		<b>DA</b>	100	38.16	0.76	0.038	-	-	-	-	38.16	0.76	0.038
		<b>PA</b>	-	-	-	-	13	44.82	1.34	0.067	44.82	1.34	0.067
		<b>AG</b>	-	-	-	-	16	55.17	2.20	0.110	55.17	2.20	0.110
		<b>SA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>Total</b>	262	100	1.38	0.069	29	100	4.10	0.205	-	2.72	0.136

**Table 22.**Aggregate mean result for the above seven items

Item	Type of schools	Mean	Standard deviation	Mean difference	T-test	Significance
Utilization of Gymnastic Tripod	Private	4.21	0.210	2.187	0.994	0.5
	government	2.03	0.101			

Aggregate data are data combined from several measurements. When data are aggregated, the responses that had been collected and analyzed in mean for each item on the basis of the sample respondents from the private and government secondary schools were summarize. Mean difference is the result of aggregate mean score of the private secondary schools subtracting from the result of aggregate mean score of the government secondary schools. A t-test is an analysis framework used to determine the difference between the private and government school sample means. The aggregate mean score of the private was 4.21 and the aggregate mean score of the

government was 2.03 and the mean difference was 2.187. The t-test was 0.994 and there was significant difference.

Seven items were designed in the above table 4.2.2.B. to collect data on the utilization of Gymnastic Tripod physical education instructional playing ground available both in the government and private secondary schools. The collected data were analyzed and presented with meaningful conclusions as follows.

The first item was designed to assess the utilization of Landing mats for the practical class in the physical education in public and private the secondary schools. 162(61.83%) and 100(38.16%) responses of students on utilization of Landing mats in public the secondary school had indicated that they had disagreed and partially disagreed on the utilized of in public the secondary schools respectively. However, 13(44.82%) and 16(55.17%) responses of students on utilization of Landing mats in the private schools had indicated that they had agreed and strongly agreed on utilization of Landing mats the private schools. The mean scores of responses in private and public secondary schools had indicated 4.10 and 1.38 respectively. This implies that utilized of in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The second item was designed to assess the utilization of Gymnasium for the practical class in the physical education in public and private the secondary schools. 182(69.46%) and 80(30.53%) 80(30.53%) and 182(69.46%) responses of students on utilization of Gymnasium for the practical in public the secondary school had indicated that they had disagreed and partially disagreed on the utilized of Gymnasium for the practical in public the secondary schools respectively. However, 15(51.72%) and 14(48.27%) responses of students on utilization of Gymnasium for the practical in the private schools had indicated that they had agreed and strongly agreed on utilization of Gymnasium for the practical in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.51 and 1.31 respectively. This implies that utilized of Gymnasium for the practical in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The third item was designed to assess the utilization of Storage room for the practical class in the physical education in public and private the secondary schools. 80(30.53%) and 182(69.46%) responses of students on utilization of Storage room for the practical class in public the secondary school had indicated that they had disagreed and partially disagreed on the availability of Storage room for the practical class in public the secondary schools respectively. However, 15(51.72%) and 14(48.27%) responses of students on utilization of Storage room for the practical class in the private schools had indicated that they had agreed and strongly agreed on utilization of Storage room in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.17 and 2.69 respectively. This implies that utilization of Storage room for the practical class in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The fourth item was designed to assess the utilization of 6-8 lane athletic tracks for the practical class in the physical education in public and private the secondary schools. 162(61.83%) and 100(38.16%) responses of students on utilization of 6-8 lane athletic tracks for the practical class in public the secondary school had indicated that they had disagreed and partially disagreed on the utilization of 6-8 lane athletic tracks for the practical class in public the secondary schools respectively. However, 13(44.82%) and 16(55.17%) responses of students on utilization of 6-8 lane athletic tracks for the practical class in the private schools had indicated that they had agreed and strongly agreed on utilization of 6-8 lane athletic tracks for the practical class in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.10 and 1.38 respectively. This implies that utilization of 6-8 lane athletic tracks for the practical class in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The fifth item was designed to assess the utilization of Take-off boards for the practical class in the physical education in public and private the secondary schools. 162(61.83%) and 100(38.16%) responses of students on utilization of Take-off boards for the practical class in public the secondary school had indicated that they had disagreed and partially disagreed on the availability of Take-off boards for the practical class in public the secondary schools respectively. However, 13(44.82%) and 16(55.17%) responses of students on utilization of Take-off boards for the practical class in the private schools had indicated that they had agreed

and strongly agreed on availability of Take-off boards for the practical class in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.10 and 1.38 respectively. This implies that utilization of Take-off boards for the practical class in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The sixth item was designed to assess the utilization of Long benches for the practical class in the physical education in public and private the secondary schools. 80(30.53%) and 182(69.46%) responses of students on utilization of Long benches for the practical class in public the secondary school had indicated that they had disagreed and partially disagreed on the utilization of Long benches for the practical class in public the secondary schools respectively. However, 13(44.82%) and 16(55.17%) responses of students on utilization of Long benches for the practical class in the private schools had indicated that they had agreed and strongly agreed on utilization of Long benches in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.10 and 1.38 respectively. This implies that utilization of in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The seventh item was designed to assess the utilization of Agility mattresses for the practical class in the physical education in public and private the secondary schools. 162(61.83%) and 100(38.16%) responses of students on utilization of Agility mattresses for the practical class in public the secondary school had indicated that they had disagreed and partially disagreed on the utilization of Agility mattresses for the practical class in public the secondary schools respectively. However, 13(44.82%) and 16(55.17%) responses of students on utilization of Agility mattresses for the practical class in the private schools had indicated that they had partially agreed and agreed on utilization of Agility mattresses for the practical class in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.10 and 1.38 respectively. This implies that utilization of Agility mattresses for the practical class in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

**Table 23.** Instructional materials that which have properly been utilized in physical education practical class in schools.

No	Items	Items of choice	Public school students				Private school students				Differences		
			Responses				Responses						
			F	%	Mean	STD	F	%	Mean	STD	%	Mean	STD
<b>C</b>	<b>Utilization of ATHLETICS IM</b>												
<b>1</b>	Horizontal bar have been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	162	61.83	0.61	0.030	-	-	-	-	61.83	0.61	0.030
		<b>DA</b>	100	38.16	0.76	0.038	-	-	-	-	38.16	0.76	0.038
		<b>PA</b>	-	-	-	-	16	55.17	1.65	0.082	55.17	1.65	0.082
		<b>AG</b>	-	-	-	-	13	44.82	1.79	0.089	44.82	1.79	0.089
		<b>SA</b>	-	-	-	-	29	100	5	0.25	100	5	0.25
		<b>Total</b>	262	100	1.38	0.069	29	100	3.44	0.172	-	2.06	0.103
<b>2</b>	Javelin (male) have been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	162	61.83	0.61	0.030	-	-	-	-	61.83	0.61	0.030
		<b>DA</b>	100	38.16	0.76	0.038	-	-	-	-	38.16	0.76	0.038
		<b>PA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>AG</b>	-	-	-	-	13	44.82	1.79	0.089	44.82	1.79	0.089
		<b>SA</b>	-	-	-	-	16	55.17	2.75	0.137	55.17	2.75	0.137
		<b>Total</b>	262	100	1.38	0.069	29	100	4.55	0.227	-	3.17	0.158
<b>3</b>	Javelin (female) have been utilized	<b>SD</b>	162	61.83	0.61	0.030	-	-	-	-	61.83	0.61	0.030
		<b>DA</b>	100	38.16	0.76	0.038	-	-	-	-	38.16	0.76	0.038
		<b>PA</b>	-	-	-	-	-	-	-	-	-	-	-



	in the secondary school for the practical class in the physical education	<b>AG</b>					15	51.72	2.06	0.103	51.72	2.06	0.103
		<b>SA</b>					14	48.27	2.41	0.120	48.27	2.41	0.120
		<b>Total</b>	262	100	1.38	0.069	29	100	4.48	0.224	-	3.10	0.155
<b>4</b>	Shot puts (male) have been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	182	69.46	0.69	0.034	-	-	-	-	69.46	0.69	0.034
		<b>DA</b>	80	30.53	0.61	0.030	-	-	-	-	30.53	0.61	0.030
		<b>PA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>AG</b>	-	-	-	-	16	55.17	2.20	0.110	55.17	2.20	0.110
		<b>SA</b>	-	-	-	-	13	44.82	2.24	0.112	55.17	2.20	0.110
		<b>Total</b>	262	100	1.31	0.065	29	100	4.44	0.222	-	3.13	0.157
<b>5</b>	Shot put (female) have been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	182	69.46	0.69	0.034	-	-	-	-	-	-	-
		<b>DA</b>	80	30.53	0.61	0.030	-	-	-	-	-	-	-
		<b>PA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>AG</b>	-	-	-	-	17	58.62	2.34	0.117	58.62	2.34	0.117
		<b>SA</b>	-	-	-	-	12	41.37	2.06	0.103	41.37	2.06	0.103
		<b>Total</b>	262	100	1.31	0.065	29	100	4.41	0.220	-	3.10	0.155
<b>6</b>	Discuss (male) have been utilized in the secondary school for the	<b>SD</b>	182	69.46	0.69	0.034	-	-	-	-	-	-	-
		<b>DA</b>	80	30.53	0.61	0.030	-	-	-	-	-	-	-
		<b>PA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>AG</b>	-	-	-	-	15	51.72	2.06	0.103	51.72	2.06	0.103
		<b>SA</b>	-	-	-	-	14	48.27	2.41	0.120	48.27	2.41	0.120
		<b>Total</b>	262	100	1.31	0.065	29	100	4.48	0.224	-	3.17	0.159

	practical class in the physical education												
<b>7</b>	Pairs of high Jump stand have been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	182	69.46	0.69	0.034		-	-	-	69.46	0.69	0.034
		<b>DA</b>	80	30.53	0.61	0.030	-	-	-	-	30.53	0.61	0.030
		<b>PA</b>	-	-	-	-	19	65.51	1.96	0.098	65.51	1.96	0.098
		<b>AG</b>	-	-	-	-	10	34.48	1.37	0.068	34.48	1.37	0.068
		<b>SA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>Total</b>	262	100	1.31	0.065	29	100	3.34	0.167	-	2.03	0.102
<b>8</b>	Aluminum cross bar have been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	182	69.46	0.69	0.034	-	-	-	-	69.46	0.69	0.034
		<b>DA</b>	80	30.53	0.61	0.030	-	-	-	-	30.53	0.61	0.030
		<b>PA</b>	-	-	-	-	20	68.96	2.06	0.103	68.96	2.06	0.103
		<b>AG</b>	-	-	-	-	9	31.03	1.24	0.062	31.03	1.24	0.062
		<b>SA</b>	-	-	-	-		-	-	-	-	-	-
		<b>Total</b>	262	100	1.31	0.065	29	100	3.31	0.165	-	2.00	0.101
<b>9</b>	Landing foams for high jump and pole vault 40pairs have been utilized in the secondary school for the practical class in the	<b>SD</b>	162	61.83	0.61	0.030		-	-	-	61.83	0.61	0.030
		<b>DA</b>	100	38.16	0.76	0.038		-	-	-	38.16	0.76	0.038
		<b>PA</b>	-	--	-	-	19	65.51	1.96	0.098	65.51	1.96	0.098
		<b>AG</b>	-	-	-	-	10	34.48	1.37	0.068	34.48	1.37	0.068
		<b>SA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>Total</b>	262	100	1.38	0.069	29	100	3.34	0.167	-	1.96	0.098

	physical education												
<b>10</b>	Exchange batons have been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	162	61.83	0.61	0.030	-	-	-	-	61.83	0.61	0.030
		<b>DA</b>	100	38.16	0.76	0.038	-	-	-	-	38.16	0.76	0.038
		<b>PA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>AG</b>	-	-	-	-	10	34.48	1.37	0.068	34.48	1.37	0.068
		<b>SA</b>	-	-	-	-	19	65.51	3.27	0.163	65.51	3.27	0.163
		<b>Total</b>	262	100	1.38	0.069	29	100	4.65	0.232	-	3.27	0.163
<b>11</b>	Hurdle stands 60pairs have been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	162	61.83	0.61	0.030	-	-	-	-	61.83	0.61	0.030
		<b>DA</b>	100	38.16	0.76	0.038	-	-	-	-	38.16	0.76	0.038
		<b>PA</b>	-	-	-	-	19	65.51	1.96	0.098	65.51	1.96	0.098
		<b>AG</b>	-	-	-	-	10	34.48	1.37	0.068	34.48	1.37	0.068
		<b>SA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>Total</b>	262	100	1.38	0.069	29	100	3.34	0.167	-	1.96	0.098

**Table 24.**Aggregate mean result for the above eleven items

Item	Type of schools	Mean	Standard deviation	Mean difference	T-test	Significance
Utilization of Athletics	Private	3.98	0.198	2.631	0.995	significant
	government	1.34	0.067			

Aggregate data are data combined from several measurements. When data are aggregated, the responses that had been collected and analyzed in mean for each item on the basis of the sample respondents responses from the private and government secondary schools were summarize. Mean difference is the result of aggregate mean score of the private secondary schools subtracting from the result of aggregate mean score of the government secondary schools.A t-test

is an analysis framework used to determine the difference between the private and government school sample means. The aggregate mean score of the private was 3.98 and the aggregate mean score of the government was 1.34 and the mean difference was 2.63. The t-test was 0.995 and there was significant difference.

Eleven items were designed in the above table 4.2.2C to collect data on the utilization of athletics physical education instructional materials utilized both in the government and private secondary schools. The collected data were analyzed and presented with meaningful conclusions as follows.

The first item was designed to assess the utilization of Horizontal bar for the practical class in the physical education in public and private the secondary schools. 162(61.83%) and 100(38.16%) responses of students on utilization of Horizontal bar in public the secondary school had indicated that they had disagreed and partially disagreed on the utilization of Horizontal bar in public the secondary schools respectively. However, 16(55.17%) and 13(44.82%) responses of students on utilization of Horizontal bar in the private schools had indicated that they had partially agreed and agreed on utilization of Horizontal bar in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.10 and 1.38 respectively. This implies that utilization of in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The second item was designed to assess the utilization of Javelin (male) for the practical class in the physical education in public and private the secondary schools. 162(61.83%) and 100(38.16%) responses of students on utilization of Javelin (male) for the practical class in public the secondary school had indicated that they had disagreed and partially disagreed on the availability of Horizontal bar for the practical class in public the secondary schools respectively. However, 13(44.82%) and 16(55.17%) responses of students on utilization of Javelin (male) for the practical class in the private schools had indicated that they had agreed and strongly agreed on utilization of Javelin (male) in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.55 and 1.38 respectively. This implies that utilization of in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The third item was designed to assess the utilization of Javelin (female) for the practical class in the physical education of in public and private the secondary schools. 162(61.83%) and 100(38.16%) 80(30.53%) and 182(69.46%) responses of students on utilization of Javelin (female) for the practical class in public the secondary schools had indicated that they had disagreed and partially disagreed on the utilization of Javelin (female) for the practical class in public the secondary schools respectively. However, 15(51.72%) and 14(48.27%) responses of students on utilization of Javelin (female) for the practical class in the private schools had indicated that they had agreed and strongly agreed on utilization of Javelin (female) for the practical class in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.41 and 1.38 respectively. This implies that a utilization of Javelin (female) for the practical class in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The fourth item was designed to assess the utilization of Shot puts (male) for the practical class in the physical education in public and private the secondary schools. 182(69.46%) and 80(30.53%) responses of students on utilization of Shot puts (male) in public the secondary schools had indicated that they had disagreed and partially disagreed on the availability of Shot puts (male) in public the secondary schools respectively. However, 16(55.17%) and 13(44.82%) responses of students on utilization of Shot puts (male) in the private schools had indicated that they had agreed and strongly agreed on utilization of Shot puts (male) in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.44 and 1.31 respectively. This implies that utilization of Shot puts (male) in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The fifth item was designed to assess the utilization of Shot put (female) for the practical class in the physical education in public and private the secondary schools. 182(69.46%) and 80(30.53%) responses of students on utilization of Shot put (female) for the practical class in public the secondary schools had indicated that they had disagreed and partially disagreed on the utilization of Shot put (female) for the practical class in public the secondary schools respectively. However, 17(58.62%) and 12(41.37%) responses of students on utilization of Shot put (female) for the practical class in the private schools had indicated that they had agreed and strongly agreed on utilization of Shot put (female) for the practical class in the private schools. The mean scores of

responses in private and public secondary schools had indicated 4.41 and 1.31 respectively. This implies that availability of Shot put (female) for the practical class in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The sixth item was designed to assess the utilization of Discuss (male) for the practical class in the physical education in public and private the secondary schools. 182(69.46%) and 80(30.53%) responses of students on utilization of Discuss (male) for the practical class in public the secondary schools had indicated that they had disagreed and partially disagreed on the utilization of Discuss (male) for the practical class in public the secondary schools respectively. However, 15(51.72%) and 14(48.27%) responses of students on utilization of Discuss (male) for the practical class in the private schools had indicated that they had agreed and strongly agreed on utilization of Discuss (male) for the practical class in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.48 and 1.31 respectively. This implies that utilization of Discuss (male) for the practical class in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The seventh item was designed to assess the utilization of Pairs of high Jump stand for the practical class in the physical education in public and private the secondary schools. 182(69.46%) and 80(30.53%) responses of students on utilization of Pairs of high Jump stand for the practical class in public the secondary schools had indicated that they had disagreed and partially disagreed on the utilization of Pairs of high Jump stand for the practical class in public the secondary schools respectively. However, 19(65.51%) and 10(34.48%) responses of students on utilization of Pairs of high Jump stand for the practical class in the private schools had indicated that they had agreed and strongly agreed on utilization of Pairs of high Jump stand for the practical class in the private schools. The mean scores of responses in private and public secondary schools had indicated 3.34 and 1.31 respectively. This implies that utilization of Pairs of high Jump stand for the practical class in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The eighth item was designed to assess the utilization of Aluminum cross bar for the practical class in the physical education in public and private the secondary schools. 182(69.46%) and 80(30.53%) responses of students on utilization of Aluminum cross bar for the practical class in public the secondary schools had indicated that they had disagreed and partially disagreed on the utilization of Aluminum cross bar for the practical class in public the secondary schools respectively. However, 20(68.96%) and 9(31.03%) responses of students on availability of Aluminum cross bar for the practical class in the private schools had indicated that they had partially agreed and agreed on utilization of Aluminum cross bar for the practical class in the private schools. The mean scores of responses in private and public secondary schools had indicated 3.31 and 1.31 respectively. This implies that utilization of Aluminum cross bar for the practical class in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The ninth item was designed to assess the utilization of Landing foams for high jump and pole vault 40pairs for the practical class in the physical education in public and private the secondary schools. 162(61.83%) and 60(38.16%) responses of students on utilization of Landing foams for high jump and pole vault 40pairs for the practical class in public the secondary schools had indicated that they had disagreed and partially disagreed on the utilization of Landing foams for high jump and pole vault 40pairs for the practical class in public the secondary schools respectively. However, 19(65.51%) and 10(34.48%) responses of students on utilization of Landing foams for high jump and pole vault 40pairs for the practical class in the private schools had indicated that they had agreed and strongly agreed on utilization of Landing foams for high jump and pole vault 40pairs for the practical class in the private schools. The mean scores of responses in private and public secondary schools had indicated 3.34 and 1.38 respectively. This implies that utilization of Landing foams for high jump and pole vault 40pairs for the practical class in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The tenth item was designed to assess the utilization of Exchange batons for the practical class in the physical education in public and private the secondary schools. 162(61.83%) and 60(38.16%) 80(30.53%) and 182(69.46%) responses of students on utilization of Exchange batons in public the secondary schools had indicated that they had disagreed and partially disagreed on the utilization of Exchange batons in public the secondary schools respectively. However, 10(34.48%)

and 19(65.51%) responses of students on utilized of the private schools had indicated that they had agreed and strongly agreed on utilized of Exchange batons the private schools. The mean scores of responses in private and public secondary schools had indicated 4.65 and 1.38 respectively. This implies that utilization of in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The eleventh item was designed to assess the utilization of Hurdle stands 60pairs for the practical class in the physical education in public and private the secondary schools. 162(61.83%) and 60(38.16%) responses of students on utilization of Hurdle stands 60pairs in public the secondary school had indicated that they had disagreed and partially disagreed on the utilization of Hurdle stands 60pairs public the secondary schools respectively. However, 19(65.51%) and 10(34.48%) responses of students on utilization of Hurdle stands 60pairs the private schools had indicated that they had agreed and strongly agreed on availability of Hurdle stands 60pairs the private schools. The mean scores of responses in private and public secondary schools had indicated 3.34 and 1.38 respectively. This implies that utilized of in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

**Table 25.** Instructional playing ground that which have properly been utilized in physical education practical class in schools.

No	Items	Items of choices	Public school students				Private school students				Differences		
			Responses				Responses						
			F	%	Mean	STD	F	%	Mean	STD	%	Mean	STD
<b>D</b>	<b>Utilized of Ball games</b>												
<b>1</b>	Soccer balls have been utilized in the secondary	<b>SD</b>	162	61.83	0.61	0.030	-	-	-	-	61.83	0.61	0.030
		<b>DA</b>	100	38.16	0.76	0.038	-	-	-	-	38.16	0.76	0.038
		<b>PA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>AG</b>	-	-	-	-	9	31.03	1.24	0.06	31.03	1.24	0.06



	school for the practical class in the physical education									2			2
		<b>SA</b>	-	-	-	-	20	68.96	3.44	0.172	68.96	3.44	0.172
		<b>Total</b>	262	100	1.38	0.069	29	100	4.68	0.234	-	3.30	0.165
<b>2</b>	Handballs (male) have been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	162	61.83	0.61	0.030	-	-	-	-	61.83	0.61	0.030
		<b>DA</b>	100	38.16	0.76	0.038	-	-	-	-	38.16	0.76	0.038
		<b>PA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>AG</b>	-	-	-	-	5	17.24	0.68	0.034	17.24	0.68	0.034
		<b>SA</b>	-	-	-	-	24	82.75	4.13	0.206	82.75	4.13	0.206
		<b>Total</b>	262	100	1.38	0.069	29	100	4.81	0.241	-	3.43	0.172
<b>3</b>	Handballs (female) have been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	162	61.83	0.61	0.030	-	-	-	-	61.83	0.61	0.030
		<b>DA</b>	100	38.16	0.76	0.038	-	-	-	-	38.16	0.76	0.038
		<b>PA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>AG</b>	-	-	-	-	8	27.58	1.10	0.055	27.58	1.10	0.055
		<b>SA</b>	-	-	-	-	21	72.41	3.62	0.181	72.41	3.62	0.181
		<b>Total</b>	262	100	1.38	0.069	29	100	4.72	0.236	-	3.34	0.167
<b>4</b>	Volley balls have been utilized in the secondary	<b>SD</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>DA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>PA</b>	80	30.53	0.916	0.045	-	-	-	-	30.53	0.916	0.045
		<b>AG</b>	182	69.46	2.77	0.138	9	31.03	1.24	0.062	38.43	1.53	0.076

	school for the practical class in the physical education	<b>SA</b>	-	-	-	-	20	68.96	3.44	0.17 2	68.96	3.44	0.17 2	
		<b>Total</b>	262	100	3.69	0.184	29	100	4.68	0.23 4	-	0.99	0.05 0	
<b>5</b>	Basket balls (male) have been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	182	69.46	0.69	0.034	-	-	-	-	69.46	0.69	0.03 4	
		<b>DA</b>	80	30.53	0.61	0.030	-	-	-	-	30.53	0.61	0.03 0	
		<b>PA</b>	-	-	-	-	-	-	-	-	-	-	-	-
		<b>AG</b>	-	-	-	-	12	41.37	1.65	0.08 2	41.37	1.65	0.08 2	
		<b>SA</b>	-	-	-	-	17	58.62	2.93	0.14 6	58.62	2.93	0.14 6	
		<b>Total</b>	262	100	1.31	0.065	29	100	4.58	0.22 9	-	3.27	0.16 4	
<b>6</b>	Basket balls (female) have been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	182	69.46	0.69	0.034	-	-	-	-	69.46	0.69	0.03 4	
		<b>DA</b>	80	30.53	0.61	0.030	-	-	-	-	30.53	0.61	0.03 0	
		<b>PA</b>	-	-	-	-	-	--	-	-	-	-	-	-
		<b>AG</b>	-	-	-	-	14	48.27	1.93	0.09 6	48.27	1.93	0.09 6	
		<b>SA</b>	-	-	-	-	15	51.72	2.58	0.12 9	51.72	2.58	0.12 9	
		<b>Total</b>	262	100	1.31	0.065	29	100	4.51	0.22 5	-	3.20	0.16 0	
<b>7</b>	Hockey balls have been	<b>SD</b>	162	61.83	0.61	0.030	-	-	-	-	61.83	0.61	0.03 0	
		<b>DA</b>	100	38.16	0.76	0.038	-	-	-	-	38.16	0.76	0.03	

	utilized in the secondary school for the practical class in the physical education												8
		<b>PA</b>	-	-	-	-	23	79.31	2.37	0.118	79.31	2.37	0.118
		<b>AG</b>	-	-	-	-	6	20.68	0.82	0.041	20.68	0.82	0.041
		<b>SA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>Total</b>	262	100	138	0.069	29	100	3.19	0.159	-	3.12	0.090
<b>8</b>	Table tennis eggs have been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>DA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>PA</b>	80	30.53	0.916	0.045	26	89.65	2.68	0.134	59.12	1.76	0.089
		<b>AG</b>	182	69.46	2.77	0.138	3	10.34	0.41	0.020	59.12	2.36	0.118
		<b>SA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>Total</b>	262	100	3.69	0.184	29	100	3.09	0.154	-	0.60	0.030

**Table 26.**Aggregate mean result for the above eight items

Item	Type of schools	mean	Standard deviation	Mean difference	T-test	Significance
Utilization of Ball games	Private	4.28	0.214	2.650	0.997	Significant
	government	1.94	0.096			

Aggregate data are data combined from several measurements. When data are aggregated, the responses that had been collected and analyzed in mean for each item on the basis of the sample respondents responses from the private and government secondary schools were summarize. Mean difference is the result of aggregate mean score of the private secondary

schools subtracting from the result of aggregate mean score of the government secondary schools. A t-test is an analysis framework used to determine the difference between the private and government school sample means. The aggregate mean score of the private was 4.28 and the aggregate mean score of the government was 1.94 and the mean difference was 2.650. The t-test was 0.997 and there was significant difference.

Eight items were designed in the above table 4.2.2. D. to collect data on the utilization of ball games physical education instructional materials available both in the government and private secondary schools. The collected data were analyzed and presented with meaningful conclusions as follows.

The first item was designed to assess the utilization of Soccer balls for the practical class in the physical education in public and private the secondary schools. 162 (61.83%) and 60 (38.16%) responses of students on utilization of Soccer balls for the practical class in public the secondary schools had indicated that they had disagreed and partially disagreed on the utilization of Soccer balls for the practical class in public the secondary schools respectively. However, 9 (31.03%) and 20 (68.96%) responses of students on utilization of Soccer balls for the practical class in the private schools had indicated that they had agreed and strongly agreed on utilization of Soccer balls for the practical class in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.17 and 2.69 respectively. This implies that utilization of Soccer balls for the practical class utilization of in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The second item was designed to assess the utilization of Handballs (male) for the practical class in the physical education in public and private the secondary schools. 162 (61.83%) and 60 (38.16%) responses of students on utilization of Handballs (male) for the practical class in public the secondary schools had indicated that they had disagreed and partially disagreed on the utilization of Handballs (male) public the secondary schools respectively. However, 5 (17.24%) and 24 (82.35%) responses of students on utilization of Handballs (male) for the practical class in the private schools had indicated that they had agreed and strongly agreed on availability of Handballs (male) the private schools. The mean scores of responses in private and public secondary schools had indicated 4.81 and 1.38 respectively. This implies that utilization of Handballs (male) for the practical class in the private schools is more than the public

schools according to the significance responses that had been collected from both private and public secondary schools.

The third item was designed to assess the utilization of Handballs (female) for the practical class in the physical education in public and private the secondary schools. 162(61.83%) and 60(38.16%) responses of students on utilization of Handballs (female) for the practical class in public the secondary schools had indicated that they had disagreed and partially disagreed on the utilization of Handballs (female) in public the secondary schools respectively. However, 8(27.58%) and 21(72.41%) responses of students on utilization of Handballs (female) for the practical class in the private schools had indicated that they had agreed and strongly agreed on utilization of Handballs (female) for the practical class in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.72 and 1.38 respectively. This implies that utilization of Handballs (female) for the practical class in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The fourth item was designed to assess the utilization of Volley balls for the practical class in the physical education in public and private the secondary schools. 80(30.53%) and 182(69.46%) responses of students on utilization of Volley balls for the practical class in public the secondary schools had indicated that they had disagreed and partially disagreed on the utilization of Volley balls for the practical class in public the secondary schools respectively. However, 9(31.03%) and 20(68.96%) responses of students on utilization of Volley balls for the practical class in the private schools had indicated that they had agreed and strongly agreed on utilization of Volley balls for the practical class in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.68 and 3.69 respectively. This implies that utilization of Volley balls for the practical class in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The fifth item was designed to assess the utilization of Basket balls (male) for the practical class in the physical education in public and private the secondary schools. 182(69.46%) and 80(30.53%) responses of students on utilization of Basket balls (male) for the practical class in public the secondary schools had indicated that they had disagreed and partially disagreed on the utilization of Basket balls (male) in public the secondary schools respectively.

However, 12(41.37%) and 17(58.62%) responses of students on utilization of Basket balls (male) for the practical class in the private schools had indicated that they had agreed and strongly agreed on utilization of Basket balls (male) for the practical class in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.58 and 1.31 respectively. This implies that utilization of Basket balls (male) for the practical class in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The sixth item was designed to assess the utilization of Basket balls (female) for the practical class in the physical education in public and private the secondary schools. 182(69.46%) and 80(30.53%) responses of students on utilization of Basket balls (female) in public the secondary schools had indicated that they had disagreed and partially disagreed on the utilization of Basket balls (female) public the secondary schools respectively. However, 14(48.27%) and 15(51.72%) responses of students on utilization of Basket balls (female) the private schools had indicated that they had agreed and strongly agreed on utilization of Basket balls (female) in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.17 and 2.69 respectively. This implies that utilization of in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The seventh item was designed to assess the utilization of Hockey balls for the practical class in the physical education in public and private the secondary schools. 80(30.53%) and 182(69.46%) responses of students on utilization of Hockey balls for the practical class in public the secondary schools had indicated that they had disagreed and partially disagreed on the utilization of Hockey balls public the secondary schools respectively. However, 24(82.35%) and 5(17.24%) responses of students on utilization of Hockey balls for the practical class in the private schools had indicated that they had agreed and strongly agreed on availability of Hockey balls for the practical class in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.17 and 2.69 respectively. This implies that utilization of Hockey balls for the practical class in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The eighth item was designed to assess the utilization of Table tennis eggs for the practical class in the physical education in public and private the secondary schools. 80 (89.65%) and 182 (69.46%) responses of students on utilization of Table tennis eggs in public the secondary school had indicated that they had disagreed and partially disagreed on the utilization of Table tennis eggs public the secondary schools respectively. However, 26 (89.65%) and 3 (10.34%) responses of students on utilization of Table tennis eggs the private schools had indicated that they had agreed and strongly agreed on utilization of Table tennis eggs the private schools. The mean scores of responses in private and public secondary schools had indicated 3.69 and 3.09 respectively. This implies that utilization of in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

**Table 27.** Instructional materials that which have properly been utilized in physical education practical class in schools.

No	Items	Items of choices	Public school students				Private school students				Differences		
			Responses				Responses						
			F	%	Mean	STD	F	%	Mean	STD	%	Mean	STD
<b>E</b>	<b>Utilization of RACKET GAMES</b>												
<b>1</b>	Tennis rackets have been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	162	61.83	0.61	0.030	-	-	-	-	61.83	0.61	0.030
		<b>DA</b>	100	38.16	0.76	0.038	-	-	-	-	38.16	0.76	0.038
		<b>PA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>AG</b>	-	-	-	-	11	37.93	1.51	0.075	37.93	1.51	0.075
		<b>SA</b>	-	-	-	-	18	62.06	3.10	0.155	62.06	3.10	0.155
		<b>Total</b>	262	100	1.38	0.069	29	100	4.61	0.230	-	3.23	0.161
<b>2</b>	Hockey sticks	<b>SD</b>	182	69.46	0.69	0.034	10	34.48	0.34	0.017	34.98	0.35	0.017
		<b>DA</b>	80	30.53	0.61	0.030	14	48.27	0.96	0.048	17.74	0.35	0.018

	have been utilized in the secondary school for the practical class in the physical education	<b>PA</b>	-	-	-	-	5	17.24	0.51	0.025	17.24	0.51	0.025	
		<b>AG</b>	-	-	-	-	-	-	-	-	-	-	-	-
		<b>SA</b>	-	-	-	-	-	-	-	-	-	-	-	-
		<b>Total</b>	262	100	1.31	0.065	29	100	1.81	0.090	-	0.50	0.025	
<b>3</b>	Table tennis bats have been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	162	61.83	0.61	0.030	-	-	-	-	61.83	0.61	0.030	
		<b>DA</b>	100	38.16	0.76	0.038	-	-	-	-	38.16	0.76	0.038	
		<b>PA</b>	-	-	-	-	20	68.96	2.06	0.103	68.96	2.06	0.103	
		<b>AG</b>	-	-	-	-	9	31.03	1.24	0.062	31.03	1.24	0.062	
		<b>SA</b>	-	-	-	-	-	-	-	-	-	-	-	
		<b>Total</b>	262	100	1.38	0.069	29	100	3.30	0.165	-	1.92	0.096	
<b>4</b>	Hockey keeper kats 2 sets are available in the secondary school for the practical class in the physical education	<b>SD</b>	182	69.46	0.69	0.034	-	-	-	-	69.46	0.69	0.034	
		<b>DA</b>	80	30.53	0.61	0.030	24	82.75	1.65	0.082	52.22	1.04	0.052	
		<b>PA</b>	-	-	-	-	5	17.24	0.51	0.025	17.24	0.51	0.025	
		<b>AG</b>	-	-	-	-	-	-	-	-	-	-	-	
		<b>SA</b>	-	-	-	-	-	-	-	-	-	-	-	
		<b>Total</b>	262	100	1.31	0.065	29	100	2.16	0.108	-	2.095	0.043	



**Table 28.**Aggregate mean result for the above four items

Item	Type of schools	mean	Standard deviation	Mean difference	T-test	Significance
Utilization of Racket games	Private	2.97	0.148	1.936	0.868	Significant
	government	1.34	0.067			

Aggregate data are data combined from several measurements. When data are aggregated, the responses that had been collected and analyzed in mean for each item on the basis of the sample respondents responses from the private and government secondary schools were summarize. Mean difference is the result of aggregate mean score of the private secondary schools subtracting from the result of aggregate mean score of the government secondary schools. A t-test is an analysis framework used to determine the difference between the private and government school sample means. The aggregate mean score of the private was 2.97 and the aggregate mean score of the government was 1.34 and the mean difference was 1.936. The t-test was 0.868 and there was significant difference.

Four items were designed in the above table 4.2.2.E to collect data on the utilization of racket game physical education instructional materials utilized both in the government and private secondary schools. The collected data were analyzed and presented with meaningful conclusions as follows.

The first item was designed to assess the utilization of Tennis rackets for the practical class in the physical education in public and private the secondary schools. 162(61.83%) and 100(38.16%) responses of students on utilization of Tennis rackets for the practical class in public the secondary schools had indicated that they had disagreed and partially disagreed on the utilization of Tennis rackets for the practical class in public the secondary schools respectively. However, 11(37.93%) and 18(62.06%) responses of students on utilized of Tennis rackets the private schools had indicated that they had agreed and strongly agreed on availability of Tennis rackets for the practical class in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.61 and 1.38 respectively. This implies that utilization of Tennis rackets for the practical class in the private schools is more than the public schools

according to the significance responses that had been collected from both private and public secondary schools.

The second item was designed to assess the utilization of Hockey sticks for the practical class in the physical education in public and private the secondary schools. 182(69.46%) and 80(30.53%) responses of students on utilization of Hockey sticks for the practical class in public the secondary school had indicated that they had disagreed and partially disagreed on the utilization of Hockey sticks public the secondary schools respectively. In the same way 10(34.48%) and 14(48.27%) had strongly disagreed and disagreed. However, 5(17.24%) responses of students on utilization of Hockey sticks for the practical class in the private schools had indicated that they had agreed and strongly agreed on utilization of Hockey sticks for the practical class in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.17 and 2.69 respectively. This implies that utilization of Hockey sticks for the practical class in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The third item was designed to assess the utilization of Table tennis bats for the practical class in the physical education in public and private the secondary schools. 162(61.83%) and 100(38.16%) responses of students on utilization of Table tennis bats for the practical class in public the secondary school had indicated that they had disagreed and partially disagreed on the utilization of Table tennis bats for the practical class in public the secondary schools respectively. However, 20(68.96%) and 9(31.03%) responses of students on utilization of Table tennis bats for the practical class in the private schools had indicated that they had agreed and strongly agreed on utilization of Hockey sticks for the practical class in the private schools. The mean scores of responses in private and public secondary schools had indicated 3.30 and 1.38 respectively. This implies that utilization of Table tennis bats for the practical class in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The fourth item was designed to assess the utilization of Hockey keeper kates 2 sets for the practical class in the physical education in public and private the secondary schools. 182(69.46%) and 80(30.53%) responses of students on utilization of Hockey keeper kates 2 sets for the practical class in public the secondary school had indicated that they had disagreed and partially disagreed on the utilization of Hockey keeper kates 2 sets for the practical class in public the

secondary schools respectively. However, 24(82.35%) and 5(17.24%) responses of students on utilization of Hockey keeper karts 2 the private schools had indicated that they had agreed and strongly agreed on utilization of Hockey keeper karts 2 sets for the practical class in the private schools. The mean scores of responses in private and public secondary schools had indicated 2.16 and 1.31 respectively. This implies that utilization of Hockey keeper karts 2 sets for the practical class in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools

**Table 29.** Instructional materials that which have properly been utilized in physical education practical class in schools.

No	Items	Items of choices	Public school students				Private school students				Differences		
			Responses				Responses						
			F	%	Mean	STD	F	%	Mean	STD	%	Mean	STD
<b>F</b>	<b>GENERAL SUPPLIES FOR ALL SPORTS</b>												
<b>1</b>	Stop watches have been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	162	61.83	0.61	0.030	6	20.68	0.20	0.010	41.15	0.41	0.020
		<b>DA</b>	100	38.16	0.76	0.038	-	-	-	-	38.16	0.76	0.038
		<b>PA</b>	-	-	-	-	23	79.31	2.37	0.118	79.31	2.37	0.118
		<b>AG</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>SA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>Total</b>	262	100	1.38	0.069	29	100	2.57	0.128	-	1.19	0.059
<b>2</b>	Tape measures have been utilized in the secondary school for	<b>SD</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>DA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>PA</b>	80	30.53	0.91	0.045	25	86.20	2.58	0.129	55.67	1.67	0.084
		<b>AG</b>	182	69.46	2.08	0.104	4	13.79	0.55	0.027	55.67	1.53	0.077
		<b>SA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>Total</b>	262	100	3.69	0.184	29	100	3.13	0.156	-	0.56	0.028

	the practical class in the physical education												
<b>3</b>	Weighing scales have been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	162	61.83	0.61	0.030	-	-	-	-	61.83	0.61	0.030
		<b>DA</b>	100	38.16	0.76	0.038	-	-	-	-	38.16	0.76	0.038
		<b>PA</b>	-	-	-	-	27	93.10	2.79	0.139	93.10	2.79	0.139
		<b>AG</b>	-	-	-	-	2	6.89	0.27	0.013	6.89	0.27	0.0137
		<b>SA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>Total</b>	262	100	1.38	0.069	29	100	3.06	0.152	-	1.68	0.083
<b>4</b>	Maintenance equipment For all sports have been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	182	69.46	0.69	0.034	-	-	-	-	69.46	0.69	0.034
		<b>DA</b>	80	30.53	0.61	0.030	-	-	-	-	30.53	0.61	0.030
		<b>PA</b>	-	-	-	-	26	89.65	2.68	0.134	89.65	2.68	0.134
		<b>AG</b>	-	-	-	-	3	10.34	0.41	0.020	10.34	0.41	0.020
		<b>SA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>Total</b>	262	100	1.31	0.065	29	100	3.09	0.154	-	1.78	0.089
<b>5</b>	Whistle (all kinds) have been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>DA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>PA</b>	80	30.53	0.91	0.045	25	86.20	2.58	0.129	55.67	1.67	0.084
		<b>AG</b>	182	69.46	2.08	0.104	4	13.79	0.55	0.027	55.67	1.53	0.077
		<b>SA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>Total</b>	262	100	3.69	0.184	29	100	3.13	0.156	-	0.56	0.028
<b>6</b>	First Aid boxes have been utilized in the	<b>SD</b>	162	61.83	0.61	0.030	-	-	-	-	61.83	0.61	0.030
		<b>DA</b>	100	38.16	0.76	0.038	-	-	-	-	38.16	0.76	0.038
		<b>PA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>AG</b>	-	-	-	-	6	20.68	0.82	0.041	20.68	0.82	0.041

	secondary school for the practical class in the physical education	<b>SA</b>	-	-	-	-	23	79.31	3.96	0.198	79.31	3.96	0.198
		<b>Total</b>	262	100	1.37	0.068	29	100	4.78	0.239	-	3.14	0.171
<b>7</b>	Multi gym have been utilized in the secondary school for the practical class in the physical education	<b>SD</b>	182	69.46	0.69	0.034	10	34.48	0.34	0.017	34.98	0.35	0.017
		<b>DA</b>	80	30.53	0.61	0.030	-	-	-	-	-	-	-
		<b>PA</b>	-	-	-	-	19	65.51	1.96	0.098	65.51	1.96	0.098
		<b>AG</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>SA</b>	-	-	-	-	-	-	-	-	-	-	-
		<b>Total</b>	262	100	1.31	0.065	29	100	2.30	0.115	-	0.99	0.050

**Table 30.**Aggregate mean result for the above seven items

Item	Type of schools	Mean	Standard deviation	Mean difference	T-test	Significance
General supplies for all sports	Private	3.15	0.157	1.414	0.792	Significant
	government	2.01	0.100			

Aggregate data are data combined from several measurements. When data are aggregated, the responses that had been collected and analyzed in mean for each item on the basis of the sample respondents responses from the private and government secondary schools were summarize. Mean difference is the result of aggregate mean score of the private secondary schools subtracting from the result of aggregate mean score of the government secondary schools. A t-test is an analysis framework used to determine the difference between the private and government school sample means. The aggregate mean score of the private was 3.15 and the aggregate mean score of the government was 2.01 and the mean difference was 1.414. The t-test was 0.792 and there was significant difference.

Seven items were designed in the above table 4.2.2 .F. to collect data on the utilization of general supplies for all sports physical education instructional materials available both in the government

secondary schools and private secondary schools. The collected data were analyzed and presented with meaningful conclusions as follows.

The first item was designed to assess the utilization of Stop watches for the practical class in the physical education in public and private the secondary schools. 80(30.53%) and 182(69.46%) responses of students on utilization of Stop watches for the practical class in public the secondary schools had indicated that they had disagreed and partially disagreed on the utilization of in public the secondary schools respectively. However, 24(82.35%) and 5(17.24%) responses of students on the private schools had on utilization of indicated that they had agreed and strongly agreed on utilization of Stop watches for the practical class in the private schools. The mean scores of responses in private secondary schools and public secondary schools had indicated 2.57 and 1.38 respectively. This implies that utilization of Stop watches for the practical class in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The second item was designed to assess the utilization of Tape measures for the practical class in the physical education in public secondary schools and private the secondary schools. 80(30.53%) and 182(69.46%) responses of students on utilization of in public the secondary schools had indicated that they had disagreed and partially disagreed on the utilization of in public the secondary schools respectively. However, 25(86.20%) and 4(13.79%) responses of students on utilization of in the private schools had indicated that they had agreed and strongly agreed on utilization of in the private schools. The mean scores of responses in private and public secondary schools had indicated 3.13 and 3.69 respectively. This implies that utilization of in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The third item was designed to assess the utilization of Weighing scales for the practical class in the physical education in public secondary schools and private the secondary schools. 162(61.83%) and 100 (38.16%) responses of students on utilization of Weighing scales for the practical class in public the secondary schools had indicated that they had disagreed and partially disagreed on the utilization of Weighing scales for the practical class in public the secondary schools respectively. However, 27(93.10%) and 2(6.89%) responses of students on utilization of in the private schools had indicated that they had agreed and strongly agreed on utilization of Weighing scales for the practical class in the private schools. The mean scores of

responses in private secondary schools and public secondary schools had indicated 3.06 and 1.38 respectively. This implies that utilization of Weighing scales for the practical class in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The fourth item was designed to assess the utilization of Maintenance equipment For all sports for the practical class in the physical education in public and private secondary schools the secondary schools. 182(69.46%) and 80(30.53%) responses of students on utilization of Maintenance equipment For all sports for the practical class in public the secondary school had indicated that they had disagreed and partially disagreed on the utilization of Maintenance equipment For all sports for the practical class in public the secondary schools respectively. However, 26(89.65%) and 3(10.34%) responses of students on utilization of Maintenance equipment For all sports for the practical class in the private schools had indicated that they had agreed and strongly agreed on utilization of in the private schools. The mean scores of responses in private secondary schools and public secondary schools had indicated 4.17 and 2.69 respectively. This implies that utilization of Maintenance equipment For all sports for the practical class in the private schools is more than the public secondary schools according to the significance responses that had been collected from both private and public secondary schools.

The fifth item was designed to assess the utilization of Whistle (all kinds) for the practical class in the physical education in public and private the secondary schools. 80(30.53%) and 182(69.46%) responses of students on utilization of in public the secondary school had indicated that they had disagreed and partially disagreed on the utilized of Whistle (all kinds) public the secondary schools respectively. However, 25(86.20%) and 4(13.79%) responses of students on utilization of in the private schools had indicated that they had agreed and strongly agreed on utilization of in the private schools. The mean scores of responses in private and public secondary schools had indicated 3.13 and 3.69 respectively. This implies that utilization of in the private secondary schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The sixth item was designed to assess the utilization of First Aid boxes for the practical class in the physical education in public and private the secondary schools. 162(61.83%) and 100 (38.16%) responses of students on utilization of in public the secondary school had indicated that they had disagreed and partially disagreed on utilization of in public the secondary schools

respectively. However, 6(20.68%) and 23(79.31%) responses of students on utilization of in the private schools had indicated that they had agreed and strongly agreed on utilization of in the private schools. The mean scores of responses in private and public secondary schools had indicated 4.78 and 1.37 respectively. This implies that utilization of in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

The seventh item was designed to assess the utilization of Multi gym for the practical class in the physical education in public secondary schools and private the secondary schools. 182(69.46%) and 80(30.53%) responses of students on utilization of in public the secondary school had indicated that they had disagreed and partially disagreed on the utilization of in public the secondary schools respectively. In the same way 10(34.48%) of the responses of the respondents had indicated as they strongly disagreed. However, 19(65.51%) responses of students on utilization of in the private schools had indicated that they had agreed and strongly agreed on utilization of in the private schools. The mean scores of responses in private and public secondary schools had indicated 2.30 and 1.31 respectively. This implies that utilization of in the private schools is more than the public schools according to the significance responses that had been collected from both private and public secondary schools.

### 4.3 Correlations Analysis

Correlation refers to the relation between variables. It measures degree to which the availability and usability of instructional materials for the practical class in the public secondary schools and private secondary schools.

**Table 31.** Correlations Analysis on the availability and usability of physical education in public secondary schools.

Variables	Availability	Physical education practical class in public secondary schools
Availability	Correlation Coefficient Sig. (2-tailed) N 262	.01--0.3 .000 262



	Availability	Physical education practical class in public secondary schools
Usability	Correlation Coefficient Sig. (2-tailed) N 262	0.1--0.2 .000 262

\*\* . Correlation is significant at the 0.01 level (2-tailed)

As it was indicated in the above table 4.3.1.the relation between the independent variable (availability instructional materials of physical education for the practical) and the dependent variables ( usability of the physical education materials for practical class) in the public secondary schools were presented and described in Pearson Correlation Coefficient. The relation between the availability and physical education instructional materials for the practical class was low since the range of relation was between 0.1-0.3. The relation between the usability and physical education instructional materials for the practical class was low since the range of relation was between 0.1-0.2.

**Table.32..Correlations Analysis on the availability and usability of physical education in Private secondary schools.**

Variable	Availability	Physical education practical class in private schools
Availability	Correlation Coefficient Sig. (2-tailed) N 29	0.3--0.4 .000 29

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Variable	Availability	Physical education practical class in private schools
Usability	Correlation Coefficient Sig. (2-tailed) N 29	0.4--0.5 .000 29

As it was indicated in the above table 4.3.1, the relation between the independent variable (instructional materials of physical education for the practical) and the dependent variables (availability and usability of the physical education materials for practical class) in the private secondary schools were presented and described in Pearson Correlation Coefficient. The relation between the availability and physical education instructional materials for the practical class was medium since the range of relation was between 0.3-0.5. The relation between the usability and physical education instructional materials for the practical class was medium since the range of relation was between 0.3-0.5.

Correlation Coefficient	Descriptor
0.0-0.1	trivial, very small, insubstantial, tiny, practically zero
0.1-0.3	small, low, minor
0.3-0.5	moderate, medium
0.5-0.7	large, high, major
0.7-0.9	very large, very high, huge
0.9-1	nearly, practically, or almost: perfect, distinct, infinite

McGraw, K. O., & Wong, S. P. (1992). A common language effect-size statistic. *Psychological Bulletin*, 111, 361-365.

Therefore, it was possible to conclude as there was significant difference between the availability and utilization of physical education materials for practical class in the private and public secondary schools.

#### **4.4. Analysis and discussion on the qualitative data**

##### **4.4.1. Analysis and discussion on the qualitative data from teachers**

Seven Interview questions were designed to collect data from public and private physical education teachers. On the basis of the designed interview questions the qualitative data were collected and the collected data were analyzed and discussed in text explanations as follows.

The first interview question asked was to their teaching experiences and their current position in the sport department. The interviewees had provided their responses for this interview questions in that their responses had indicated that responses in the three teachers and the responses of the five teachers in the public schools had indicated that their teaching experiences were ten years and above fifteen years respectively. The three teachers in the private schools had indicated that their teaching experiences were five years and above.

The second interview question asked was to identify the presence of the available instructional materials for the physical education practical class in their schools. the responses that had been collected from eight physical education teachers five from public and three from private had indicated the absences of the available instructional materials for the physical education practical class in their schools.

The third interview question asked was identifying the list the available instructional materials that have been found in your school with their functional group. As the responses of the respondents indicated it was too difficult even to list the scarce instructional materials to list out.

The fourth interview question asked was to identify the extent at which the instructional materials for physical education practical class were available in their school. The responses of the physical education teachers had indicated that the availability instructional materials were at low level.

The fifth interview question asked was to identify the utilization of the available instructional materials while you have been teaching the practical class. The responses of the respondents had shown that the utilization of the instructional materials specifically the existing ones were more utilized in private secondary schools than public secondary schools.

The sixth interview question asked was to identify the extent the available instructional materials had been utilized in the physical education practical class. According to the responses collected

from teachers the rate of utilization of the available instructional materials was low but it was somewhat better in the private secondary schools.

The seventh interview question asked was to identify the major problems for implementation of PE practical session secondary schools. According to the responses of the teachers, the major problems for implementation of PE practical session secondary schools were; the absence of enough materials and instruments and lack of giving attention to supply enough materials in the side of the school managements and the government.

#### **4.4.2. Analysis and discussion on the qualitative data**

Six Interview questions were designed to collect data from public secondary schools and private secondary schools principals. On the basis of the designed interview questions the qualitative data were collected and the collected data were analyzed and discussed in text explanations as follows

The designed interview questions designed focusing on get the experiences of principals, the presence of providing available instructional materials for the physical education practical class by the school management, getting the principals to list the available instructional materials that have been found in your school with their functional group, the presence of convenient class schedules of physical education practical session to make practice, to identify the best practices that are observed in the implementation of PE practical sessions and to identify the encouraging teachers to participate in the PE practice session by fulfilling the necessary materials. The responses that had been collected from the six school principals three public and three private were indicated that available instructional materials for the physical education for practical class by the school management were not properly supplied as the physical education for practical class were required, the principals did not list the available instructional materials, there were inconvenient class schedules of physical education practical session to make practice, the best practices were observed in the implementation of PE practical sessions in one private secondary school and teachers encouragement was not as required.

#### **4.4.3. Analysis and discussion on Observation**

Observation was another instrument through which the qualitative data were collected for this study. Ten observation checklists were designed as the guide line to conduct field observation,

class room and observations stores in which the instructional materials of physical education have keeping.

The qualitative scales that were help us to identify the absence of materials, the availability of materials at very low level, at medium level and high level. On the basis of these scales observations had been conducted. The results of the observation had indicated that the availability of instructional materials were not as required, the function sport clubs were not as required since there the absences of necessary instructional materials, the play ground were not found especially in the public secondary schools, theteaching and learning environment were conducive, theavailability of teaching aid was not as required, there no enough materials according to their function for the practical class and the interventions of school administrators were not strong.

#### **4.4. Discussions**

Under this part of the study the results that had been obtained through quantitative data collecting approach and analyzed into percentage,mean, standerd deviation in descriptive stasticis and given the meanful conclusion through inferencial stastics pariciulary pearson correlation that had helped the researcher to identify the results that had been obtained through quantitative data collecting approach and the data that had been collected through qualitative data collecting approach were helped the researcher to identify the results that had been obtained through qualtitative data. The results that had been obtained through quantitavative and qualitative data collecting approaches were compared totriangulated the results to confirm the similarity of the results. The results that had been obtained from the quantitative data collecting approach from students were similar with the results that had been gained through responses that had been collected from physical education teachers and principals through interview questions.

The next part of this discussion had presented to confirm the similarity and the dissimilarity of the current findings that had been gained from this study with the previous studies that had been done by the previous researchers. Five previous findings were compared with the current findings of this study. These findings were presented as follows.

The study that had been conducted by Ofojebe, (2003) on the availability, utilization and maintenance of physical facilities in secondary schools in Anambra State had revealed that there were no adequate physical facilities in secondary schools on sports resources in Anambra. The

study that had been conducted by State.Akin-Taylor and Ogunyemi, (2008) had indicated that sports resources-facilities, equipment, supplies and personnel are very important aspect of any sports program. The study that had been done by Ikioya, (2008) on the difference in the availability, adequacy and functionality of Physical Education facilities in Ede state had shown that decentralization enhances the availability, adequacy and functionality of school Physical Education facilities.

The study that had been conducted by Defaru,(2017) on material resource utilization on practices and challenges in wollega university.The finding of this study indicated that material resource management has attention during early years.

The study that had been conducted by Akinsanya,(2010) to determine the differential distribution and utilization of human resources on students'performance in state owned and federal schools.The finding of this study revealed that both material and human resources were practically in adequate and where they were adequate were note well utilization in thoses two tyes of schools.The study also revealed that physical facilities like laboratories and libraries were in adequate which affected students

The other further studies conducted by Agwubike and Ogbouma, (2010) on adequacy and functionality of fitness equipment and facilities in selected fitness centres in Ede and Delta states of Nigeria and by Akinsolu (2012) on resource utilization and internal efficiency in Nigeria secondary schools had shown that facilities and equipment in the fitness centers studied were grossly inadequate , majority of the available equipment were either non-functional or obsolete and resources are vital for educational system production function respectively.

The result of the current study were the instructional materials for practical physical education that were available in the public secondary schools were very few foot balls and volleyballs and the availability of foot ball and volleyball in the private were better than the public secondary schools, the private secondary schools werethat properly utilized physical education instructional materials.was significant difference between the government and private secondary schools in the availability of instructional materials and its utilization in teaching the practical class in physical education.

When we compare the current findings with the above previous findings the nature of the current study was comparative in that the avalablity and its utilizations of instructional material for

physical education on the basis of comparing between private and government secondary schools. In the case of availability the current study was similar with the study that had been conducted by Ofojebi (2003) and Akinsolu (2012). However, the current study was dissimilar with the other above previous studies because the previous findings more focused on materials resources management and challenges of physical education practical class and in the case of availability the current study was the availability of instructional materials and its utilization of physical education practical class between private and government secondary schools.

## **CHAPTER FIVE**

### **5. Summary, Conclusions and Recommendations**

#### **5.1 Summary**

The study had organized in five chapters in that in the first of the study the background information of the study had presented focusing on the definition of availability of instruction materials and its utilization and followed with the statement of the problem under which the basic questions were designed on the basis of the information that addressed in the background of the study and on the basis of the basic research questions, the general and the specific objectives of the study were determined. Based on the identified objectives of the study, the scope of the study were determined geographically and conceptually in that the study had been delimited to three selected government secondary schools and three selected private secondary schools of Jimma town. In the second part of the study closely related review literature to the topic of this study were carefully reviewed and included in the content of this study. In the third part of this study the method of the study had selected in that descriptive method was used with quantitative and qualitative data collecting approaches.

Quantitative data collecting method was used to collect data through questionnaire from students in that 90 close-ended questions were designed and responses were collected from 291 sample respondents of students. Qualitative data collecting method was used to collect qualitative data through interview and observations from physical education teachers and principals.

The Quantitative collected data that were collected through questionnaire were analyzed using percentiles, mean, standard deviations and t-test under the fourth part of this study and the qualitative data that were collected through interview questions and observations from physical education teachers and principals were analyzed qualitatively through discussing in text explanations. In the last part of this study conclusions were made and the findings were identified and presented side by side with three basic questions of the study. On the basis of the findings of this study recommendations were given at the last part of this study.



The data that analyzed in descriptive statistics were interpreted through inferential statistics using Pearson correlation to give meaningful conclusions for the data that were analyzed in descriptive analysis in the relations between public and private secondary physical education instructional materials/practical class on the availability and its utilizations.

## 5.2. Conclusions

- The main objective of this study was to assess the physical education practical class instructional materials availability and its utilization on private and public secondary schools of Jimma town. To achieve the intended objective of this study descriptive research method was used with quantitative and qualitative approaches.
- Quantitative was used in this study for collecting the quantitative data were collected from 291 students of public and private secondary schools in which 262 sample respondents of students were selected from public and 29 sample respondents were selected from private secondary schools through stratified simple random sampling technique and data were collected from students through five scale Likert close-ended questionnaire.
- The qualitative data were collected through interview from eight physical education teachers and six principals. In addition to interview, observation was used to collect qualitative were collected.
- The collected quantitative data were analyzed in percentages, mean and standard deviation in descriptive statistics and discussed with text explanations.
- The qualitative data that were collected through interview questions and observations discussed in text explanations.
- On basis of the analysis made of this study, the conclusions were made and the findings of this study were identified and presented with the research questions side by side as follows.
- The first research question asked was to identify the physical education instructional materials that were available both in the government and private secondary schools. The result of this study indicated that the instructional materials for practical physical education that were available in the public secondary schools were very few foot balls

and volleyballs and the availability of foot ball and volleyball in the private were better than the public secondary schools.

- The second research question asked was to identify the schools that properly utilized physical education instructional materials. The result of this study had revealed that the private secondary schools were that properly utilized physical education instructional materials.
- The last research question was asked to identify the presence of significant difference between the government and private secondary schools in the availability of instructional materials and its utilization in teaching the practical class in physical education.
- The result of this study had indicated that there was significant difference between the government and private secondary schools in the availability of instructional materials and its utilization in teaching the practical class in physical education.

### **5.3. Recommendations**

- ✓ The availability and adequacy of instructional materials should be supervised to identify the available and unavailable instructional materials for the practical class.
- ✓ Available practical class instructional materials should be supplied both in the government and private secondary schools as required.
- ✓ The available practical class physical education instructional materials should be utilized as required in the public similarly with private secondary schools.
- ✓ The experiences of supplying and utilizing of practical class physical education that had been observed in the private secondary schools should be used as the experiences for the public secondary schools.
- ✓ So in order to improve education in general and physical education in particular the appropriate agencies like government institute various non-governments organisations (NGO) and societies number should work collaboratively.
- ✓ Therefore Utilizing the availability materials their school compounds.

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**Appendix I**  
**JIMMA UNIVERSITY**  
**COLLEGE NATURAL SCIENCE**  
**DEPARTMENT OF SPORT SCIENCE**

**Questionnaire for students**

Dear, students, the purpose of this questionnaire is to obtain information about the comparative study on the physical education practical class instructional material availability and its utilization between the private and public secondary school of Jimma town. To achieve the intended objective of this study your responses are very important. Therefore, I kindly request you to provide your respected responses by marking ( ) tick on the space that has been provided for each item. Your responses will not be used for other purpose rather than for the objective of this study. Writing your name on this question paper is forbidden.

**Part I** General information:

1. Sex: F  Male
2. Age: 15—17  18-20  21 and above
3. Grade: 9  10
4. Income \_\_\_\_\_
5. Employment: Govt  Private
6. Ethnicity/Nationality: Oromo  Amhara  S/N/N/& People  Tigre
7. Religion: Orthodox  Muslim  Protestant  Others

**Part II questions**

Choices of Items. 1. Strongly disagree (SD) 2, Disagree (DA) 3, partially agree 4, Agree (A) and 5. Strongly agree (SA)

**I. Physical education instructional materials available both in the government and private secondary schools.**

No	Items	1	2	3	4	5
<b>A</b>	<b>Availability of playground</b>					
1	Football court is available in the secondary school					
2	Basketball court is available in the secondary school					
3	Volleyball court is available in the secondary school					
4	Handball court is available in the secondary school					
5	Badminton court is available in the secondary school					
6	Tennis court is available in the secondary school					
7	Large indoor teaching space of 40m x 50m, for Gymnastics is available in the secondary school					
8	Swimming pool is available in the secondary school					
<b>B</b>	<b>Gymnastic Tripod</b>					
1	Landing mats are available in the secondary school					
2	Gymnasium is available in the secondary school					
3	Storage room is available in the secondary school					
4	6-8 lane athletic tracks are available in the secondary school					
5	Take-off boards are available in the secondary schools					
6	Long benches are available in the secondary school					
7	Agility mattresses are available in the secondary school					
<b>C</b>	<b>ATHLETICS</b>					
1	Horizontal bars are available in the secondary school					
2	Javelin (male) are available in the secondary school					
3	Javelin (female) are available in the secondary school					
4	Shot puts (male) are available in the secondary school					
5	Shot put (female) are available in the secondary school					
6	Discuss (male) are available in the secondary school					
7	Pairs of high Jump stand are available in the secondary school					
8	Aluminum cross bar are available in the secondary school					
9	Landing foams for high jump and pole vault 40pairs are available in the secondary school					

<b>10</b>	Exchange batons are available in the secondary school					
<b>11</b>	Hurdle stands 60pairs are available in the secondary school					
<b>D</b>	<b>BALL GAMES</b>					
<b>1</b>	Soccer balls are available in the secondary school					
<b>2</b>	Handballs (male) are available in the secondary school					
<b>3</b>	Handballs (female) are available in the secondary school					
<b>4</b>	Volley balls are available in the secondary school					
<b>5</b>	Basket balls (male) are available in the secondary school					
<b>6</b>	Basket balls (female) are available in the secondary school					
<b>7</b>	Hockey balls are available in the secondary school					
<b>8</b>	Table tennis eggs are available in the secondary school					
<b>E</b>	<b>RACKET GAMES</b>					
<b>1</b>	Tennis rackets are available in the secondary school					
<b>2</b>	Hockey sticks are available in the secondary school					
<b>3</b>	Table tennis bats are available in the secondary school					
<b>4</b>	Hockey keeper kats 2 sets are available in the secondary school					
<b>F</b>	<b>GENERAL SUPPLIES FOR ALL SPORTS</b>					
<b>1</b>	Stop watches are available in the secondary school					
<b>2</b>	Tape measures are available in the secondary school					
<b>3</b>	Weighing scales are available in the secondary school					
<b>4</b>	Maintenance equipment For all sports are available in the secondary school					
<b>5</b>	Whistle (all kinds) are available in the secondary school					
<b>6</b>	First Aid boxes are available in the secondary school					
<b>7</b>	Multi gym are available in the secondary school					



**II. Instructional materials that which have properly been utilized in physical education practical class in schools.**

<b>1</b>	Football court has been utilized in the secondary school for the practical class in the physical education					
<b>2</b>	Basketball court has been utilized in the secondary school for the practical class in the physical education					
<b>3</b>	Volleyball court has been utilized in the secondary school for the practical class in the physical education					
<b>4</b>	Handball court has been utilized in the secondary school for the practical class in the physical education					
<b>5</b>	Badminton court has been utilized in the secondary school for the practical class in the physical education					
<b>6</b>	Tennis court has been utilized in the secondary school for the practical class in the physical education					
<b>7</b>	Large indoor teaching space of 40m x 50m, for Gymnastics has been utilized in the secondary school for the practical class in the physical education					
<b>8</b>	Swimming pool has been utilized in the secondary school for the practical class in the physical education					
<b>B</b>	<b>Gymnastic Tripod</b>					
<b>1</b>	Landing mats have been utilized in the secondary school for the practical class in the physical education					
<b>2</b>	Gymnasium has been utilized in the secondary school for the practical class in the physical education					
<b>3</b>	Storage room has been utilized in the secondary school for the practical class in the physical education					
<b>4</b>	6-8 lane athletic tracks have been utilized in the secondary school for the practical class in the physical education					
<b>5</b>	Take-off boards have been utilized in the secondary schools for the practical class in the physical education					
<b>6</b>	Long benches have been utilized in the secondary school for the					

	practical class in the physical education					
7	Agility mattresses have been utilized in the secondary school for the practical class in the physical education					
<b>C</b>	<b>ATHLETICS</b>					
1	Horizontal bar have been utilized s in the secondary school for the practical class in the physical education					
2	Javelin (male) have been utilized in the secondary school for the practical class in the physical education					
3	Javelin (female) have been utilized in the secondary school for the practical class in the physical education					
4	Shot puts (male) have been utilized in the secondary school for the practical class in the physical education					
5	Shot put (female) have been utilized in the secondary school for the practical class in the physical education					
6	Discuss (male) have been utilized in the secondary school for the practical class in the physical education					
7	Pairs of high Jump stand have been utilized in the secondary school for the practical class in the physical education					
8	Aluminum cross bar have been utilized in the secondary school for the practical class in the physical education					
9	Landing foams for high jump and pole vault 40pairs have been utilized in the secondary school for the practical class in the physical education					
10	Exchange batons have been utilized in the secondary school for the practical class in the physical education					
11	Hurdle stands 60pairs have been utilized in the secondary school for the practical class in the physical education					
<b>D</b>	<b>BALL GAMES</b>					
1	Soccer balls have been utilized in the secondary school for the practical class in the physical education					
2	Handballs (male) have been utilized in the secondary school for the practical class in the physical education					

3	Handballs (female) have been utilized in the secondary school for the practical class in the physical education					
4	Volley balls have been utilized in the secondary school for the practical class in the physical education					
5	Basket balls (male) have been utilized in the secondary school for the practical class in the physical education					
6	Basket balls (female) have been utilized in the secondary school for the practical class in the physical education					
7	Hockey balls have been utilized in the secondary school for the practical class in the physical education					
8	Table tennis eggs have been utilized in the secondary school for the practical class in the physical education					
<b>E</b>	<b>RACKET GAMES</b>					
1	Tennis rackets have been utilized in the secondary school for the practical class in the physical education					
2	Hockey sticks have been utilized in the secondary school for the practical class in the physical education					
3	Table tennis bats have been utilized in the secondary school for the practical class in the physical education					
4	Hockey keeper kats 2 sets are available in the secondary school for the practical class in the physical education					
<b>F</b>	<b>GENERAL SUPPLIES FOR ALL SPORTS</b>					
1	Stop watches have been utilized in the secondary school for the practical class in the physical education					
2	Tape measures have been utilized in the secondary school for the practical class in the physical education					
3	Weighing scales have been utilized in the secondary school for the practical class in the physical education					
4	Maintenance equipment For all sports have been utilized in the secondary school for the practical class in the physical education					

5	Whistle (all kinds) have been utilized in the secondary school for the practical class in the physical education					
6	First Aid boxes have been utilized in the secondary school for the practical class in the physical education					
7	Multi gym have been utilized in the secondary school for the practical class in the physical education					

## Appendix

### Sample Data collected from proportionally

No	Name of school	Total numbers of students grade 9	Numbers of sample students	Total numbers of students in grade 10		Numbers of sample students	Total numbers of sample students from grades 9 and 10
				Section	No		
	Jiren						
1	9A	65	3	10A	68	4	7
2	9B	65	3	10B	68	4	7
3	9C	65	3	10C	68	4	7
4	9D	65	3	10D	68	4	7
5	9E	65	3	10E	68	4	7
6	9F	65	3	10F	68	4	7
7	9G	65	3	10G	68	4	7
8	9H	65	3	10H	68	4	7
9	9I	65	3	10I	68	4	7
10	9J	65	3	10J	68	4	7
11	9K	65	3	10K	68	4	7
12	9L	65	3	10L	68	4	7
13	9M	65	3	10M	68	4	7
14	9N	65	3	10N	68	4	7
15	9O	65	3	10O	68	4	7
16	9P	65	3	10P	68	4	7
17	9Q	65	3	10Q	68	4	7
18	9R	65	3	10R	68	4	7
19	9S	65	3	10S	68	4	7
20	9T	65	3	10T	67	3	6
21	9U	65	3	-	-	-	-
22	9V	65	3	-	-	-	-
	Total	1430	66			79	145
	AbaBuna						
1	9A	64	3	10A	56	2	5
2	9B	64	3	10B	56	2	5
3	9C	64	3	10C	56	2	5
4	9D	64	3	10D	56	2	5
5	9E	64	3	10E	56	2	5
6	9F	64	3	10F	56	2	5
7	9G	64	3	10G	56	2	5
8	9H	64	3	10H	56	2	5
9	9I	64	3	10I	56	2	5
10	9J	64	3	-	-	-	3
	Total	640	30		504	18	48
	Seto						

1	9A	64	3	10A	63	3	6
2	9B	64	3	10B	63	3	6
3	9C	64	3	10C	63	3	6
4	9D	64	3	10D	63	3	6
5	9E	64	3	10E	63	3	6
6	9F	64	3	10F	63	3	6
7	9G	64	3	10G	63	3	6
8	9H	64	3	10H	63	3	6
9	9I	64	3	10I	63	3	6
10	9J	64	3	10J	63	3	6
11	9K	64	3	10K	63	3	6
12	9L	63	3	-	-	-	3
	Total	767	36			33	69
	Eldan						
1	9A	48	2	10A	45	2	4
2	9B	49	2	10B	42	2	4
3	9C	48	2	10C	43	2	4
4	9D	48	2	10D	43	2	4
	Total	193	8			8	16
	Catholic						
1	9A	43	2	10A	40	2	4
2	9B	43	2	10B	40	2	4
3	9C	44	2	-	-	-	2
	Total	129	6			4	10
	Abifam						
	9A	31	1	10A	42	2	3
	Total	31	1		42	2	3

## ጅማ ዩኒቨርሲቲ

### የተፈጥሮ ሣይንስ ኮሌጅ

የሰውነት ማሳልመሻና ስፖርት ትምህርት ክፍል

በተማሪዎች የሚሞላ መጠይቅ

የዚህ መጠይቅ ዓላማ በጅማ ከተማ 2ኛ ደረጃ ት/ቤት የመንግስትና የግል ት/ቤቶች በሚገኙ የ9ኛ እና 10ኛ ክፍል ተማሪዎች የመስክ ስራ በተግባር ስማሩ የሚያጋጥማቸውን ግራፎች በመለየት የመፍትሄ አቅጣጫ ማስቀመጥ ስለሆነ የምትሰጡት መልስ ለጥናቱ የተሟላ እንደሆነ ከፍተኛ አስተዋጽኦ ስላለው ለመጠይቁ ትክክለኛውን መልስ በመስጠት እንድትተባበሩኝ እጠይቃለሁ።

#### ማሳሰቢያ:-

ሀ/በዚህ መጠይቅ ላይ ከመልስ በስተቀር ሌላ አላስፈላጊ ጽሁፍ መጻፍ አይፈቀድም፤

ለ/አማራጭ ለተሰጣቸው ጥያቄዎች ትክክለኛ ነው ብለህ/ሽ ያመንክበትን/ሽበትን ትክክለኛውን መልስ በመምረጥ በተሰጠው ሰንጠረዥ ውስጥ የ( ) ምልክት በመሙላት መልስ መስጠት ነው።

#### ክፍል 1፤ አጠቃላይ የግል መጠይቅ:-

1. ጾታ: ወ  ሴ
2. ዕድሜ: ከ15-17  ከ18-20  ከ21 እና ከዚያ በላይ
3. ክፍል: 9ኛ 10ኛ
4. ገቢ \_\_\_\_\_
5. የቅጥር ሁኔታ የመንግስት  የግል
6. ብሔር/ዜግነት ኦሮሞ  አማራ  ደቡብ/ብሄረሰቦች  ትግሬ   
ሌሎች
7. ሃይማኖት ኦርቶዶክስ  ሙስሊም  ፕሮቴስታንት   
ሌሎች

**ክፍል 2፡ ከዚህ ውስጥ በመምረጥ፡-**

1፡ በጣም አልሰማም 2፡ አልሰማም 3፡ በከፊል እስማማለሁ 4፡ እስማማለሁ እና 5፡ በጣም እስማማለሁ

ሀ	የመጫወቻ ቦታ ግኝት	1	2	3	4	5
1	በ2ኛ ደረጃ ት/ቤቱ የእግር ኳስ መጫወቻ ሜዳ መኖሩ፤					
2	በ2ኛ ደረጃ ት/ቤቱ የቅርጫት ኳስ መጫወቻ ሜዳ መኖሩ፤					
3	በ2ኛ ደረጃ ት/ቤቱ የመረብ ኳስ መጫወቻ ሜዳ መኖሩ፤					
4	በ2ኛ ደረጃ ት/ቤቱ የእጅ ኳስ መጫወቻ ሜዳ ሜዳ መኖሩ፤					
5	በ2ኛ ደረጃ ት/ቤቱ የባድመንተን ኳስ መጫወቻ ሜዳ መኖሩ፤					
6	በ2ኛ ደረጃ ት/ቤቱ የጠረጴዛ ቴኒስ መጫወቻ ቦርድ መኖሩ፤					
7	በ2ኛ ደረጃ ት/ቤቱ የጅምናስቲክ መሳሪያ ቤት 40%X50% መኖሩ፤					
8	በ2ኛ ደረጃ ት/ቤቱ የመዋኛ ገንዳ መኖሩ፤					
<b>ለ</b>	<b>ባለ ሶስት እግር የጅምናስቲክ መሳሪያ፤</b>					
1	በ2ኛ ደረጃ ት/ቤቱ የማረፊያ ፍራሾች መኖራቸው፤					
2	በ2ኛ ደረጃ ት/ቤቱ የአካል ብቃት መሰሪያ ጅምናዚያም መኖሩ፤					
3	በ2ኛ ደረጃ ት/ቤቱ የስፖርት ዕቃ ማስቀመጫ ክፍል መኖሩ፤					
4	በ2ኛ ደረጃ ት/ቤቱ የመጫወቻ ሜዳ 6-8 የመሮጫ መስመሮች መኖራቸው፤					
5	በ2ኛ ደረጃ ት/ቤቱ የመርገጫ ስፕሪንግ ቦርድ መኖራቸው፤					
6	በ2ኛ ደረጃ ት/ቤቱ ረዥም አግዳሚ ወንበሮች መኖራቸው፤					
7	በ2ኛ ደረጃ ት/ቤቱ የአካል ብቃት መሰሪያ ፍራሾች መኖራቸው፤					
	<b>አትሌቲክስ፤</b>					
1	በ2ኛ ደረጃ ት/ቤቱ አግድሞሽ ረዘም ያለ ቀጭን እንጨት መኖራቸው፤					
2	በ2ኛ ደረጃ ት/ቤቱ የወርወራ ጦሮች ለወንዶች መኖራቸው፤					
3	በ2ኛ ደረጃ ት/ቤቱ የወርወራ ጦሮች ለሴቶች ለብቻ መኖራቸው፤					
4	በ2ኛ ደረጃ ት/ቤቱ የአሎሎ ድንጋዮች ለወንዶች መኖራቸው፤					
5	በ2ኛ ደረጃ ት/ቤቱ የአሎሎ ድንጋዮች ለሴቶች ለብቻ መኖራቸው፤					
6	በ2ኛ ደረጃ ት/ቤቱ የዲስክስ ወርወራ መሳሪያዎች መኖራቸው፤					
7	በ2ኛ ደረጃ ት/ቤቱ ጥንድ የከፍታ ዝላይ መሳሪያዎች መኖራቸው፤					
8	በ2ኛ ደረጃ ት/ቤቱ አግድም የሚቀመጥ የከፍታ ዝላይ እንጨት ከአሎሚኒየም የተሰራ መኖራቸው፤					
9	በ2ኛ ደረጃ ት/ቤቱ ለከፊታ ዝላይ የማረፊያ ፍራሽ እና 40 ጥንድ ዋልታ ምሶሶ የእንጨት ብረት መኖራቸው፤					
10	በ2ኛ ደረጃ ት/ቤቱ የዱላ ቅብብል እንጨቶች መኖራቸው፤					
11	በ2ኛ ደረጃ ት/ቤቱ የመሰናክል መነሻ 60 ጥንድ መኖራቸው፤					
<b>መ</b>	<b>የመጫወቻ ኳሶች</b>					
1	በ2ኛ ደረጃ ት/ቤቱ የእግር ኳሶች መኖራቸው፤					
2	በ2ኛ ደረጃ ት/ቤቱ የእጅ ኳሶች ለወንዶች መኖራቸው፤					
3	በ2ኛ ደረጃ ት/ቤቱ የእጅ ኳሶች ለሴቶች መኖራቸው፤					
4	በ2ኛ ደረጃ ት/ቤቱ የመረብ ኳሶች መኖራቸው፤					
5	በ2ኛ ደረጃ ት/ቤቱ የቅርጫት ኳሶች ለወንዶች መኖራቸው፤					
6	በ2ኛ ደረጃ ት/ቤቱ የቅርጫት ኳሶች ለሴቶች መኖራቸው፤					
7	በ2ኛ ደረጃ ት/ቤቱ የሁክ ኳሶች መኖራቸው፤					
8	በ2ኛ ደረጃ ት/ቤቱ የጤረጴዛ ቴኒስ ኳሶች መኖራቸው፤					
<b>ሠ</b>	<b>የመጫወቻ ራኬቶች</b>					
1	በ2ኛ ደረጃ ት/ቤቱ የጤረጴዛ ቴኒስ ራኬቶች መኖራቸው፤					



2	በ2ኛ ደረጃ ት/ቤቱ የሁክ መጫወቻ እንጨቶች መኖራቸው፤				
3	በ2ኛ ደረጃ ት/ቤቱ የጤረጫ ቱኒስ መጫወቻ መኖራቸው፤				
4	በ2ኛ ደረጃ ት/ቤቱ ሁለት የሁክ ማቆያ መኖራቸው፤				
ረ	<b>አጠቃላይ ለስፖርት ስራ አስፈላጊ የሆኑ መሳሪያዎች፤</b>				
1	በ2ኛ ደረጃ ት/ቤቱ የመሮጫ ሰዓቶች መኖራቸው፤				
2	በ2ኛ ደረጃ ት/ቤቱ ረዥም የመስፈሪያ ገመዶች መኖራቸው፤				
3	በ2ኛ ደረጃ ት/ቤቱ የክብደት መለኪያ ሚዛኖች መኖራቸው፤				
4	በ2ኛ ደረጃ ት/ቤቱ ለጥገና ቁሳቁስ ለሁሉም የስፖርት መሳሪያዎች መኖራቸው፤				
5	በ2ኛ ደረጃ ት/ቤቱ ለሁሉም ስፖርት የሚሆኑ ፍራሾች መኖራቸው፤				
6	በ2ኛ ደረጃ ት/ቤቱ ለመጀመሪያ የህክምና እርዳታ ዕቃዎች መያዣ ሳጥን መኖራቸው፤				
7	በ2ኛ ደረጃ ት/ቤቱ ሁለገብ ጅምናዚየሞች መኖራቸው፤				
ሀ	<b>የትምህርት መርጃ መሳሪያ ያላቸው እና በትክክል ለአካል እንቅስቃሴ በሜዳ ላይ የሚጠቀሙ ት/ቤቶች</b>				
1	በ2ኛ ደረጃ ት/ቤቱ የእግር ኳስ ሜዳ ለመስክ ስራ አገልግሎት እየሰጠ ነው፤				
2	በ2ኛ ደረጃ ት/ቤቱ የቅርጫት ኳስ ሜዳ ለመስክ ስራ አገልግሎት እየሰጠ ነው፤				
3	በ2ኛ ደረጃ ት/ቤቱ የመረብ ኳስ ሜዳ ለመስክ ስራ አገልግሎት እየሰጠ ነው፤				
4	በ2ኛ ደረጃ ት/ቤቱ የእጅ ኳስ ሜዳ ለመስክ ስራ አገልግሎት እየሰጠ ነው፤				
5	በ2ኛ ደረጃ ት/ቤቱ የባድመንተን መጫወቻ ሜዳ ለመስክ ስራ አገልግሎት እየሰጠ ነው፤				
6	በ2ኛ ደረጃ ት/ቤቱ የጠረጴዛ ቱኒስ አገልግሎት እየሰጠ ነው፤				
7	በ2ኛ ደረጃ ት/ቤቱ ሰፊ የቤት ወስጥ ጅምናስቲክ የማስተ ማሪያ ቦታ 40ሜx50ሜ አገልግሎት እየሰጠ ነው፤				
8	በ2ኛ ደረጃ ት/ቤቱ የመዋኛ ገንዳ አገልግሎት እየሰጠ ነው፤				
ለ	<b>የጅምናስቲክ መሳሪያዎች</b>				
1	በ2ኛ ደረጃ ት/ቤቱ የማረፊያ ፍራሾች አገልግሎት እየሰጠ ነው፤				
2	በ2ኛ ደረጃ ት/ቤቱ ጅምናዚየም የመስክ ስራ አገልግሎት እየሰጠ ነው፤				
3	በ2ኛ ደረጃ ት/ቤቱ ለስፖርት የዕቃ ማስቀመጫ ክፍል አገልግሎት እየሰጠ ነው፤				
4	በ2ኛ ደረጃ ት/ቤቱ የተዘጋጁ የመሮጫ መስመሮች ከ6-8 የመስክ ስራ አገልግሎት እየሰጠ ነው፤				
5	በ2ኛ ደረጃ ት/ቤቱ የመንሻ ስፕሪንግ ቦርዶች የመስክ ስራ አገልግሎት እየሰጠ ነው፤				
6	በ2ኛ ደረጃ ት/ቤቱ ረጅም የአግዳሚ ወንበሮች የመስክ ስራ አገልግሎት እየሰጠ ነው፤				
7	በ2ኛ ደረጃ ት/ቤቱ የአካል ብቃት መስሪያ ፍራሾች የመስክ ስራ አገልግሎት እየሰጠ ነው፤				
	<b>የአትሌቲክስ ስራ፤</b>				
1	በ2ኛ ደረጃ ት/ቤቱ የአግድሞሽ ረዘም ያለ ቀጭን እንጨቶች ሆሪዞንታል ባሮች የመስክ ስራ አገልግሎት እየሰጠ ነው፤				
2	በ2ኛ ደረጃ ት/ቤቱ የወርወራ ጦሮች ለወንዶች የተዘጋጁ የመስክ ስራ አገልግሎት እየሰጠ ነው፤				
3	በ2ኛ ደረጃ ት/ቤቱ የወርወራ ጦሮች ለሴቶች የተዘጋጁ የመስክ ስራ አገልግሎት እየሰጠ ነው፤				
4	በ2ኛ ደረጃ ት/ቤቱ የአሎሎ ድንጋዮች ለወንዶች የተዘጋጁ የመስክ ስራ አገልግሎት እየሰጠ ነው፤				

5	በ2ኛ ደረጃ ት/ቤቱ የአሎሎ ድንጋዮች ለሴቶች የተዘጋጁ የመስክ ስራ አገልግሎት እየሰጡ ነዉ፤					
6	በ2ኛ ደረጃ ት/ቤቱ የዲስክስ ዲስኮች ለወንዶችና ለሴቶች የተዘጋጁ የመስክ ስራ አገልግሎት እየሰጠ ነዉ፤					
7	በ2ኛ ደረጃ ት/ቤቱ ጥንድ የከፍታ ዝላይ መሳሪያዎች የተዘጋጁ የመስክ ስራ አገልግሎት እየሰጡ ነዉ፤					
8	በ2ኛ ደረጃ ት/ቤቱ አግዳሚ የሚቀመጡ የከፊታ ዝላይ እንጨቶች ከአልሙኒየም የተዘጋጀ የመስክ ስራ አገልግሎት እየሰጡ ነዉ፤					
9	በ2ኛ ደረጃ ት/ቤቱ ለከፊታ ዝላይ ማረፊያ ፊራቭ እና 40 ጥንድ ዋልታ ምሶሶ እንጨት የመስክ ስራ አገልግሎት እየሰጡ ነዉ፤					
10	በ2ኛ ደረጃ ት/ቤቱ የዱላ ቅብብል እንጨቶች የመስክ ስራ አገልግሎት እየሰጠ ነዉ፤					
11	በ2ኛ ደረጃ ት/ቤቱ የመሰናክል መነሻ 60 ጥንዶች ለተዘጋጁ የመስክ ስራ አገልግሎት እየሰጡ ነዉ፤					
<b>መ</b>	<b>የመጫዎቻ ከሶች፤</b>					
1	በ2ኛ ደረጃ ት/ቤቱ የእግር ኳሶች ለተዘጋጁ የመስክ ስራ አገልግሎት እየሰጡ ነዉ፤					
2	በ2ኛ ደረጃ ት/ቤቱ የእጅ ኳሶች ለወንዶች ለተዘጋጁ የመስክ ስራ አገልግሎት እየሰጡ ነዉ፤					
3	በ2ኛ ደረጃ ት/ቤቱ የእጅ ኳሶች ለሴቶች ለተዘጋጁ የመስክ ስራ አገልግሎት እየሰጡ ነዉ፤					
4	በ2ኛ ደረጃ ት/ቤቱ የመረብ ኳሶች ለተዘጋጁ የመስክ ስራ አገልግሎት እየሰጡ ነዉ፤					
5	በ2ኛ ደረጃ ት/ቤቱ የቅርጫት ኳሶች ለወንዶች ለተዘጋጁ የመስክ ስራ አገልግሎት እየሰጡ ነዉ፤					
6	በ2ኛ ደረጃ ት/ቤቱ የቅርጫት ኳሶች ለሴቶች ለተዘጋጁ የመስክ ስራ አገልግሎት እየሰጠ ነዉ፤					
7	በ2ኛ ደረጃ ት/ቤቱ የኡክ ኳሶች ለተዘጋጁ የመስክ ስራ አገልግሎት እየሰጡ ነዉ፤					
8	በ2ኛ ደረጃ ት/ቤቱ የጠረጴዛ ቴኒስ ኳሶች ለተዘጋጁ የመስክ ስራ አገልግሎት እየሰጡ ነዉ፤					
<b>ሠ</b>	<b>የመጫዎቻ ራኬቶች፤</b>					
1	በ2ኛ ደረጃ ት/ቤቱ የጠረጴዛ ቴኒስ ራኬቶች ለተዘጋጁ የመስክ ስራ አገልግሎት እየሰጠ ነዉ፤					
2	በ2ኛ ደረጃ ት/ቤቱ የኡክ መጫዎቻ እንጨቶች ለተዘጋጁ ለመስክ ስራ አገልግሎት እየሰጠ ነዉ፤					
3	በ2ኛ ደረጃ ት/ቤቱ የጠረጴዛ ቴኒስ መጫዎቻዎች ለተዘጋጁ ለመስክ ስራ አገልግሎት እየሰጠ ነዉ፤					
4	በ2ኛ ደረጃ ት/ቤቱ የኡክ ማጠራቀሚያ 2ሴት ለተዘጋጁ ለመስክ ስራ አገልግሎት እየሰጠ ነዉ፤					
<b>ረ</b>	<b>አጠቃላይ ለስፖርት ስራ አስፈላጊ የሆኑ መሳሪያዎች፤</b>					
1	በ2ኛ ደረጃ ት/ቤቱ የመሮጫ ሴዓቶች ለተዘጋጁ ለመስክ ስራ አገልግሎት እየሰጠ ነዉ፤					
2	በ2ኛ ደረጃ ት/ቤቱ ረጅም የመስፈሪያ ገመዶች ለተዘጋጁ ለመስክ ስራ አገልግሎት እየሰጠ ነዉ፤					
3	በ2ኛ ደረጃ ት/ቤቱ የክብደት መለኪያ ሚዛኖች ለተዘጋጁ የመስክ ስራ አገልግሎት እየሰጡ ነዉ፤					
4	በ2ኛ ደረጃ ት/ቤቱ የጥገና ቁሳቁሶች ለሁሉም ስፖርቶች ለተዘጋጁ የመስክ ስራ አገልግሎት እየሰጡ ነዉ፤					
5	በ2ኛ ደረጃ ት/ቤቱ ለሁሉም ስፖርቶች የሚሆኑ ፍራሾች ለተዘጋጁ የመስክ ስራ አገልግሎት እየሰጡ ነዉ፤					

6	በ2ኛ ደረጃ ት/ቤቱ ለመጀመሪያ የህክሚና ዕርዳታ የሚወጡ ሳጥኖች ለተዘጋጁ የመስክ ስራ አገልግሎት እየሰጡ ነዉ፤					
7	በ2ኛ ደረጃ ት/ቤቱ ሁለገብ ጅምናዚያዎች ለተዘጋጁ የመስክ ስራ አገልግሎት እየሰጡ ነዉ፤					

## **Appendix II**

### **I. Interview for the physical education teachers**

1. Please, would you tell me your name, your teaching experiences and your current position in the sport department?
2. Are there available instructional materials for the physical education practical class in your school?
3. Do you list the available instructional materials that have been found in your school with their functional group?
4. At what extent these instructional materials for physical education practical class are available in your school?
5. Do you utilize the available instructional materials while you have been teaching the practical class?
6. At what extent do you utilize the available instructional materials in the physical education practical class?
7. What are the major problems for implementation of PE practical session secondary Schools?

## **II. Interview for Principals**

1. Please, would you tell me your name, your teaching experiences?
2. Does the school management provide available instructional materials for the physical education practical class?
3. Do you list the available instructional materials that have been found in your school with their functional group?
4. Are the class schedules of physical education practical session convenient to make practice?
5. What are the best practices that you are observed in the implementation of PE practical sessions?
6. Do encourage teachers to participate in the PE practice session by fulfilling the necessary materials?

### III.Observation checklist

S.No		None	Very low	Medium	High
1.	Availability of teaching materials				
2.	Availability of playground				
3.	Teaching and learning environment				
4.	Function of sport club				
5.	The use of lesson plan				
6.	Availability of teaching aid				
7.	Way of presentation				
8.	Administration interventions				
9.	Availability of teaching materials				
10.	Lists of available instructional Materials according to their function For the practical class				