



# The Impact of School Facilities on Teaching and Learning in Presbyterian Secondary Schools in the SW of Cameroon

Rev Mbanwi Pascaline Enjoh

M.Ed, PhD in View, Department of Educational Foundations and Administration of the Faculty of Education, University of Buea, Buea, Cameroon

## ABSTRACT

Considering that education is the bed rock of every successful society, this study intended to find out the impact of school facilities on teaching and learning in Presbyterian secondary schools in the south west region of Cameroon. This study used the survey research design which helped to determine the influence of facilities on teaching and learning in selected Presbyterian secondary schools in the South West Region of Cameroon. Data for the study was collected by the use of questionnaire which contained semi structured questions. The closed ended questions constituted Likert-type four response option items. The secondary schools studied are located in three of the six Divisions of the Region. These are Fako, Meme and Manyu. Of the five secondary schools studied, two are in the urban area of Kumba (Meme Division) and Limbe (Fako Division) while three are located in rural areas. The target population for this study constituted all teachers found in Presbyterian Secondary Schools in the South West Region of Cameroon

In this study the researcher used 05 Presbyterian Secondary Schools out of the 07 Presbyterian Secondary Schools in the South West Region of Cameroon. This sample size gave a percentage of 60% from the population giving a total number of representatives of 150. From the findings, it was realised that the indispensable role of school facilities was approved by almost all the respondents. About three quarters of them held that school facilities (classrooms with good air conditions) enhance teaching and learning, comfortable seats enable learning as students feel well to participate in class while spacious classrooms give the teacher and student good room for interaction.

This agrees with the study of Buckley, et al., (2004) that poor air movement and ventilation can result in increased student absenteeism and subsequent reduced student performance; thermal comfort affect both teacher performance and student achievement and classroom lighting can improve test scores and reduce off-task behavior. Also, a study of over 2000 classrooms indicated that students with the most classroom daylight progressed 20% faster in one year on mathematics tests and 26% faster on reading tests than those in classrooms with the least amount of natural daylight.

**Keyword:** Facilities, Teaching, Learning

## INTRODUCTION

Education is the bed rock of every successful societal. The no child left behind global education policy is the latest approach in the improvement and closing of gaps in student academic performance. Traditionally, high schools have received much of the attention in the discussion of school reforms. This is possibly due to the sequential proximity that high schools have to the world of higher education or the world of work. Universities and employers are claiming billions of dollars in expenses to remediate high school graduates (Fiske, 1991). It is without doubt that every sustainable education system is well embedded in an environment made of diversified educational facilities. Bearing in mind the inexplicable importance of these facilities, this paper sought to investigate the impact of school facilities on teaching and learning in Presbyterian Secondary Schools in the SW of Cameroon.

## PROBLEM STATEMENT

A recent study by the American Society of Civil Engineers reports that 75 percent of the nations' school buildings are inadequate (Kerr, 2003). This has occurred coincidentally while student performance and dropout for many of our nation's students has remained stagnant (Cameroon growth and employment strategic paper). The research is clear that a strong link exists between the school facilities and the learning process (Blair, 1998). Oft cited researchers Earthman and Lemasters (1996) have pointed out that students surrounded by a safe, modern and environmentally controlled environment experience a positive effect on their learning. School finance trends in Texas have shown a notable increase in funding for educational facilities (Clark, 2001). However, studies are needed to draw a clear comparison between the quality of our school buildings and academic outcomes. Long time Texas educators, such as retired Texas A&M University professor Harold Hawkins, point out the limited depth of research in this area (O'Neill, 2000) Knowing the importance of school facilities in the teaching and process, this study is intended to highlight the impact of these facilities within the teaching and learning.

### Purpose of the study

This study intended to find out the implication or impact of facilities available in schools on the teaching and learning process. It was intended to illuminate the relationship that exists between school facilities, teaching and learning.

### Research Question

Do school facilities influence the teaching and learning process in Presbyterian secondary schools?

## BACKGROUND TO THE STUDY

School facilities have been observed as a potent factor to quantitative education. The importance to teaching and learning of the provision of adequate instructional facilities for education cannot be over-emphasised. The dictum that "teaching is inseparable from learning but learning is not separable from teaching" is that teachers do the teaching to make the students learn, but students can learn without the teachers.

According to Akande (1985), learning can occur through one's interaction with one's environment. Environment here refers to facilities that are available to facilitate students learning outcome. It includes books, audiovisual, software and hardware of

educational technology; so also, size of classroom, sitting position and arrangement, availability of tables, chairs, chalkboards, shelves on which instruments for practicals are arranged (Farrant, 1991 and Farombi, 1998).

According to Oni (1992), facilities constitute a strategic factor in organizational functioning. This is so because they determine to a very large extent the smooth functioning of any social organization or system including education. He further stated that their availability, adequacy and relevance influence efficiency and high productivity. In his words, Farombi (1998) opined that the wealth of a nation or society could determine the quality of education in that land; emphasizing that a society that is wealthy will establish good schools with quality teachers, learning infrastructures that with such, students may learn with ease thus bringing about good academic achievement.

For successful achievement of academic performance in schools there is need to provide key physical infrastructure which include:- science laboratory, school library, classrooms and various types of solid waste disposal. Science laboratory is central to scientific instruction and it forms essential component of science education. It is where various kinds of practical work are carried out by students under the guidance of their teachers. Without proper and well-equipped science laboratory, it is not possible to carry out the science teaching process effectively in any school or educational institutions. Library is a section of the school organization where there are groupsofbooks, magazines, articles and newspapers. Some schools have audio-visual section in their library. The need for a good library service is no longer an issue of debate. A library is therefore indispensable because it is hub of intellectual activities in the school just as a laboratory.

Classrooms are key infrastructural facilities in the school where the teaching learning process takes place. Spacious classroom gives the teacher and students good room for interaction. Solid waste disposal system is important in enhancing safe and clean environment. There is need for proper management of solid waste disposal in schools because this enhances positive attitude towards personal hygiene and environment. Firstly, application of appropriate management techniques would assist in taking care of all available facilities. In

either word, facilities which might have suffered neglect as a result of carelessness, ignorance, lack of commitment and resources for management, would receive attention from school administrators and inspectors. Also, school facilities which are well managed are likely to be durable. This will save us the loss of replacement within a short period of procurement.

In addition, there would be safety from danger, disaster and theft when facilities are well managed, certain facilities, especially the ones in the laboratories, are delicate, dangerous, expensive and explosive. They need to be well managed in order to avoid the danger which would arise from their usage. Also, disasters such as flood and fire could be avoided if there is proper planning for safety precautions.

In Virginia, Cash (1993) developed a research that examined the impact of various factors of building condition on student's achievement in a manner that controlled for socio-economic status of the students. He found that when socio-economic factors were constant, facility condition had a significant correlation with student's achievement. Also, he found out that air conditioning, absence of graffiti, condition of science laboratories, classrooms, condition of library facilities, types of solid waste disposals systems correlated with student academic achievement at a significant level when controlling for socio-economic status of the students.

Chan (1996) also conducted a similar study of the impact of physical infrastructure on students and concluded that technology and adaptabilities of physical infrastructure better equipped students for success and that to ignore that fact was to disregard the physical difficulties of learning. On classroom size, studies have shown that students in larger classes may perform more poorly if the resulting reduced motivation leads to increased absenteeism. However, such issues have not been empirically tested. Teaching is generally assumed to be a public good, however, as Bonesronning (2003) points out, there are also private good aspects.

As classroom size is reduced, instructors have a greater chance to provide students with individual attention and can respond to the reduced class size by reallocating resources towards low-achieving students or by adopting teaching methods geared towards student needs (Brown and Saks 1987). The impact of

classroom size on achievement can therefore be ambiguous, depending on the instructor's teaching method and student motivation.

The physical infrastructure includes laboratory, library, classroom and solid waste disposal. A well planned and organized layout of physical infrastructure do much to banish apathy, supplement inadequacy of books as well as arouse students interest by giving them something practical to see, do and at the same time helping to train them to think things out themselves. Savoury (1958) suggested a catalogue of useful visual aids that are good for teaching history such as pictures, post cards, diagrams, maps, filmstrips of materials. It is against this background that this study seeks to establish the influence of physical infrastructure on the performance of students in Presbyterian Secondary schools in Cameroon.

Writing on the role of facilities in teaching, Balogun (1982) submitted that no effective science education programme can exist without equipment for teaching. This is because facilities enable the learner to develop problem-solving skills and scientific attitudes. In their contribution, Ajayi and Ogunyemi (1990) reiterated that when facilities are provided to meet relative needs of a school system, students will not only have access to the reference materials mentioned by the teacher, but individual students will also learn at their own pace. The net effect of this is increased overall academic performance of the entire students.

This is in agreement with Nwangwu (1997) who believed that teaching materials facilitate teaching and learning activities, which result in effective teaching and improved academic performance. For efficient educational management, facilities help the school to determine the number of pupils to be accommodated, number of teachers and non-teaching personnel to be employed and the cost determination for the efficient management of the system (Osagie, 2001). The school climate is determined by the resources, especially class rooms under which the teachers and pupils operates which influences attitude in teaching and learning. Unconducive class room creates stress on teachers and pupils resulting to negative attitude toward school and learning by pupils.

The issue of quality in education goes beyond the curriculum or subject content but includes learning environment and school factors. It is the view of

Obayan (2003) and Obameata (1998) that classroom learning environment and school factors exerts some dominant influence on learner's achievement.

Quality of facilities is not only related to building age but also building condition, with good facility management being able to extend the life cycle of a building. Higher literacy and numeracy achievements have been recorded for students learning in new or upgraded buildings when compared with students learning in older or non modernised facilities. These differences have been found in a range of studies across the United States, with scores ranging from between five and eight percent higher for students in better condition facilities. The link between student behaviour and better quality facilities is less conclusive; however, studies have found fewer discipline and attendance issues in more modern facilities (Fisher 2000).

Facilities below approved standard could also lead to reduction in quality of teaching and learning in schools resulting to poor pupils' academic performance (Uwheraka, 2005). The school environment affects academic achievement of pupils. Facilities such as, desks, seats, chalkboard, teaching aids, and cupboard are ingredients for effective teaching and learning. In the same vein the Nigeria Education Research Council of 1998 also emphasized that, for a good education policy or programmed to guarantee quality outputs, it must be adequately supplied with necessary facilities and equipment. In Kenya a number of studies have been conducted to assess the level of availability and adequacy of teaching and learning facilities in the schools. The school infrastructure which includes: buildings, science laboratories, play grounds, and school compound were found to play an important role in facilitating academic achievement in schools. An evaluation which was conducted by KIE in the year 2007 to investigate how much prepared schools were for the new curriculum showed that most of the sampled schools had inadequate infrastructure for teaching and learning.

According to Kenn Fisher (2000) temperatures in excess of 25°C have detrimental physiological effects which, in turn, decrease mental efficiency, work outputs and performance. Above this temperature, and with poor humidification, respiration rates are increased, physical efforts become more demanding, attention spans decrease and students report more

discomfort. There is also increased absenteeism and conditions favourable to disease and infection spread amongst students. Student achievement is further reduced by poor ventilation, lack of air movement and poor humidity control. Much of the research on this was done before standardised testing was available as a measuring tool. However, students in appropriately controlled environments were observed to make significantly fewer errors on tasks and required less time on tasks than students in uncontrolled environments.

Lorton and Walley (1979) and Hallack (1990) discovered that learning experiences are fruitful when there are adequate quantity and quality of physical resources; and that unattractive school buildings, crowded classrooms, non-availability of playing ground and surroundings that have no aesthetic beauty can contribute to poor academic performance. To emphasize further the issue of physical facilities, Cameron (1970) underscores the importance of developing adequate and appropriate physical facilities for quality education to be realized.

There is a consistent body of evidence linking particular factors to improved student performance (Buckley et al 2004). These include:

- **Air movement and ventilation** – poor air movement and ventilation can result in increased student absenteeism and subsequent reduced student performance;
- **Thermal comfort** – considered to affect both teacher performance and student achievement;
- **Classroom lighting** - appropriate classroom lighting can improve test scores and reduce off-task behavior
- **Natural daylight** – has been linked to faster progression in Mathematic and reading. A study of over 2000 classrooms indicated that students with the most classroom daylight progressed 20% faster in one year on math tests and 26% faster on reading tests than those in classrooms with the least amount of natural daylight.
- **Acoustics** - good acoustics considered fundamental to good academic performance, both in terms of external noise and noise within the classroom.

Ogundare (1999) and Olagboye (2004), viewed utilization of school infrastructure and learning environment as the extent of usage of school buildings, laboratories, library, assembly-ground,

flower garden, school garden, volleyball field, chairs, desks, chalkboard, and so on. However, too much pressure on their use could result in over utilization, a situation that could lead to rapid deterioration and breakdown. For instance, when a classroom built to accommodate 40 students is constantly being used for 60 students then the returns from these facilities may not be maximized in terms of teaching and learning. Comfortable learning facilities will not only boost the morale of teachers and students but will also ensure the realization of the set educational objectives in secondary schools.

The library services (both physical and virtual) of the Information Division are developed and maintained for and on behalf of the teaching and learning needs of the University. Library and information delivery services are integrated within the Information Division to ensure that excellence in teaching and learning is backed by high quality infrastructure using the best of the physical and communications facilities. Developments within e-learning are paralleled by an on-going demand for print, multimedia and non-book library materials and services. The physical libraries add value to the teaching and learning experiences by providing housing, organisation and access to a diverse range of general and specialised materials.

According to Haycock (1995a, 1995b), the evidence that links school libraries and student achievement is that, schools with good libraries and the services of a school librarian students perform significantly better on tests for basic research skills; students perform significantly better in reading comprehension and in their ability to express effectively ideas in relation to their reading; more reading occurs when there is a school library; the guidance of a librarian appears to exert significant influence on student achievement in information-gathering and in schools with good libraries and full-time librarians, students perform better at higher levels in reading comprehension, and in knowledge and use of reference materials than students in schools with minimal or no library service.

Other researches that link specific school library factors to student achievement prove that school libraries are statistically the most beneficial are clearly important. Smith (2001) admits that causal relationships cannot be established solely on the basis

of statistical analysis. Advocacy of school libraries is made more difficult if the sole source of evidence is dry statistics. Yet macro-studies that take thousands of students as their subjects must necessarily take a statistical approach. According to Scott and Plourde (2007) the research now needs to move on from examining the positive impact of school libraries and into studying exactly what a quality school library programme looks like.

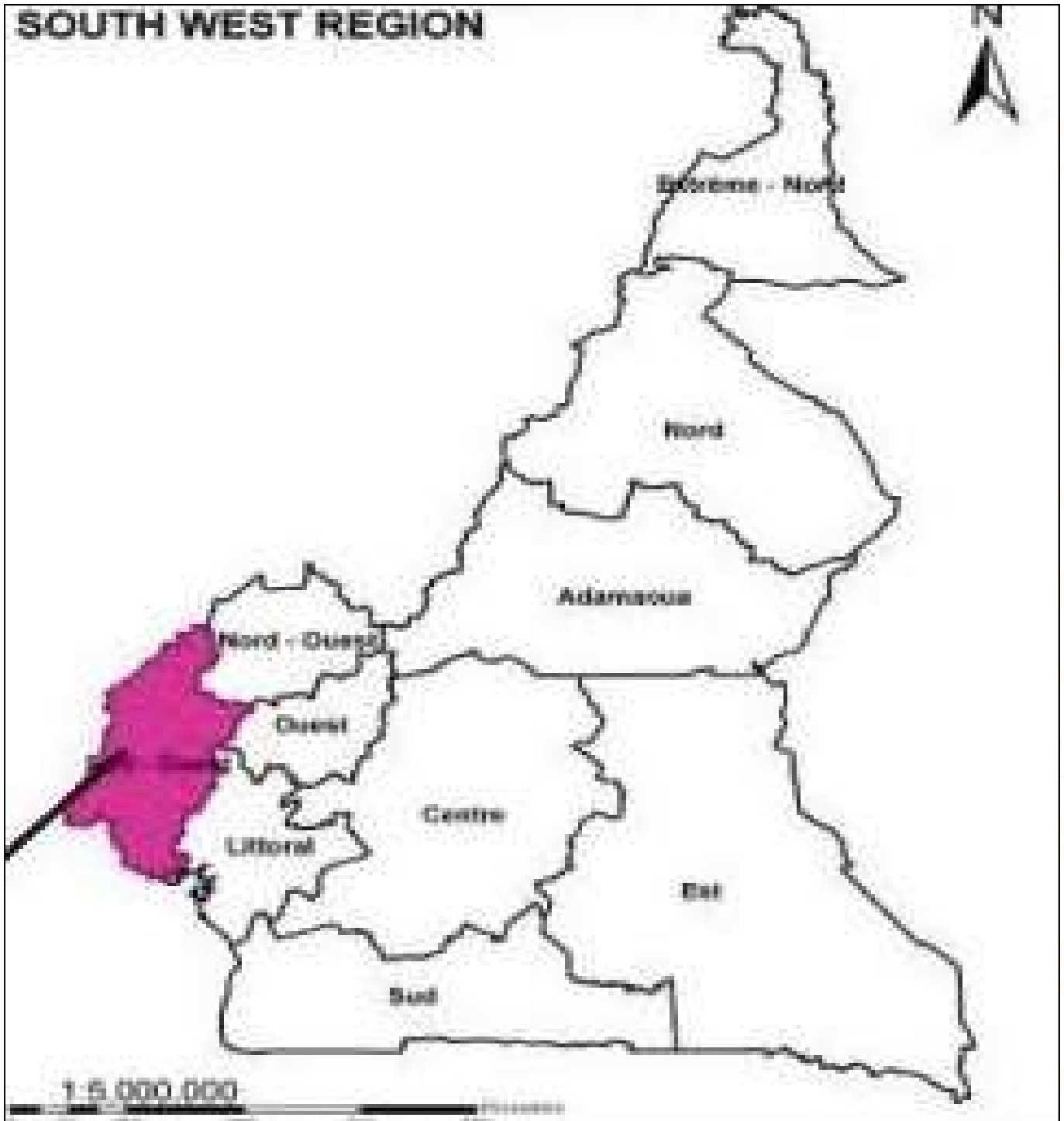
## METHODOLOGY

This study used the survey research design which helped to determine the influence of facilities on teaching and learning in selected Presbyterian secondary schools in the South West Region of Cameroon. The design was considered relevant because it entails the researcher to collect, analyze data and report information as it exists in the field without manipulation of variables.

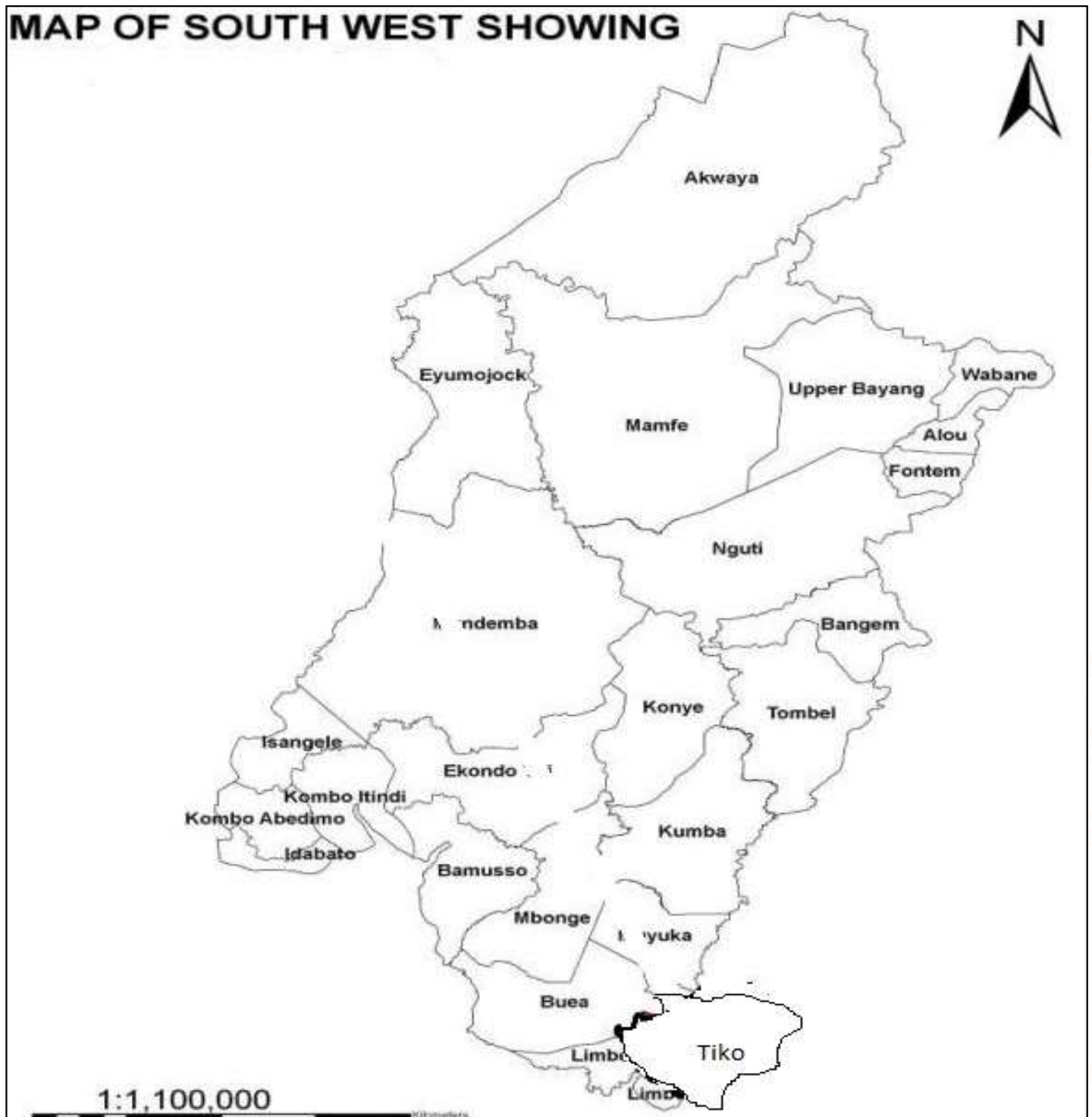
Also, the design was used in describing the characteristics of a large population, makes use of large samples, thus making the results statistically significant even when analyzing multiple variables, many questions were asked about a given variable giving considerable flexibility to the analysis. The design allowed the use of various methods of data collection like questionnaire and interview methods and it also made use of standardized questions where reliability of the items is determined (Owen, 2002). Hence, the researcher used this survey design to collect data from teachers of some selected Presbyterian Secondary Schools in the South West Region of Cameroon.

The South West Region is made up of six divisions. These are; Fako, Meme, Ndian, Manyu, Kupe-Manenguba and Lebialem. These are in turn broken down into subdivisions. Presidentially appointed senior divisional officers and sub-divisional officers govern each respectively.

The secondary schools studied are located in three of the six Divisions of the Region. These are Fako, Meme and Manyu. Of the five secondary schools studied, two are in the urban area of Kumba (Meme Division) and Limbe (Fako Division) while three are located in rural areas.



*Figure 1: the study Area: South West Region*



**Figure 2: Presbyterian Secondary Schools in the South West Region of Cameroon**

The target population for this study constituted all teachers found in Presbyterian Secondary Schools in the South West Region of Cameroon

In this study the researcher used 05 Presbyterian Secondary Schools out of the 07 Presbyterian Secondary Schools in the South West Region of Cameroon. This sample size gave a percentage of 60% from the population giving a total number of representatives of 150.

Data for the study was collected by the use of questionnaire which contained semi structured questions. The closed ended questions constituted Likert-type four response option items. The choice of a questionnaire was motivated by Gay and Airasion's (2000) who opined that it is easier to collect data from respondents through the use of questionnaire because it requires less time, and produces quick results.

Data analysis refers to examining what has been collected in a survey or experiment and making deductions and inferences (Kombo & Tromp, 2006). The questionnaire collected from the respondents were checked to ascertain that they were completed and accurately. They were then edited and coded. The data will be analyzed using the Statistical Package for Social Sciences (SPSS, Version 21). Mujis (2004) describes SPSS as the capability of offering extensive data handling numerous statistical analysis routines that can analyze small to very large data statistics. Quantitative data was analyzed using descriptive statistics tools such as frequency distribution tables and graphs. Qualitative data was used and analyzed by synthesizing the information from the respondents and arranging the responses thematically in line with the variables of study.

### FINDINGS

The indispensable role of school facilities was approved by almost all the respondents. About three quarters of them held that school facilities (classrooms with good air conditions) enhance teaching and learning, comfortable seats enable learning as students feel well to participate in class while spacious classrooms give the teacher and student good room for interaction.

This agrees with the study of Buckley, et al., (2004) that poor air movement and ventilation can result in increased student absenteeism and subsequent reduced student performance; thermal comfort affect both teacher performance and student achievement and classroom lighting can improve test scores and reduce off-task behavior. Also, a study of over 2000 classrooms indicated that students with the most classroom daylight progressed 20% faster in one year on mathematics tests and 26% faster on reading tests than those in classrooms with the least amount of natural daylight.

On the other hand, good school facilities like comfortable benches and chairs can encourage so much relaxation during learning and some students sleep off in class. Despite this, the global mean of the distribution was 2.99 which fell above the cut off point of 2; denoting that school facilities constitute a vital aspect to effective teaching and learning in Presbyterian Secondary Schools in the South West Region of Cameroon. To complement this, the result of the analysis revealed that the calculated  $\Gamma_{xy}$ -value of 0.252\* for classroom adequacy and teaching and

learning is greater than the critical  $\Gamma_{xy}$ -value of 0.098 at 0.05 level of significance.

### Conclusion

From the findings, it is glaring that the concept of facilities cannot be undermined in any educational milieu; be it primary, secondary or higher education. Most Presbyterian Secondary Schools in the South West Region of Cameroon have some good facilities though there is a need to make all of them available to all schools given their prominence in teaching and learning. From first sight, their importance can all be measured from the uses they provide to teachers and learners in school but intrinsically they have differing degrees of influence on teaching and learning. The concept of facilities appears to be so underpinning in teaching and learning because learning experiences are fruitful when there are adequate quantity and quality of physical resources; and that unattractive school buildings, crowded classrooms can contribute to poor academic performance. Nonetheless, caution should be taken on provision of good facilities because some sophisticated equipment derail student's attention and they prefer extracurricular activities like sports, laboratory than attend class lessons. This leads to increase absenteeism rate.

A multiplier effect was also identified on these findings depicting that the dilapidation or depreciation of infrastructures and equipment can cause further destructions especially when the density of usage is not controlled to match the appropriate ratios. The damage or destruction of windows, doors and benches for example can result to a high students concentrate on the remaining good ones leading to subsequent damages because of over usage. In this light, the findings of this study were concluded in favour of Wilson and Kelling (1982) Broken Window theory; who offered that if a building had a broken window and the window was not replaced, all of the other windows would soon be broken. One broken window indicates that no one cares, so continuing the breakage will come at no cost.

Also, Malcolm Gladwell (2009) using Wilson and Kelling's theory said that the condition of school infrastructure has crucial consequences for school performance, specifically attendance and drop-out rates. If a school is damaged and left unrestored, the disrepair will create an atmosphere of instability that tends to strangle social order and the educational process. Students in such an environment perceive



that they are not special, that school is not important, that no one really cares, and as a result will be more likely to stay home, giving education low priority in their lives.

Hence, since a good environment reinforces the efforts of the teacher by providing a good stimulus for effective teaching and learning to take place. Such a stimulus is not only provided by ensuring good physical plant planning but also through proper maintenance of such physical facilities. A good school environment where good working facilities exist is a catalyst for effective teaching and learning. In a school where there is enough space for the teachers to walk round in the classroom while delivering lesson will promote fascinating attention of students and good academic performance.

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