



**GHANA NATIONAL EDUCATION CAMPAIGN
COALITION – GNECC**

**TRACKING OF SUPPLY AND UTILIZATION OF SCHOOL RESOURCES in
Pre-Tertiary Schools: A Study in Greater Accra, Central and Volta Regions**

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ABSTRACT

The study investigates the supply and utilization of school resources in pre Tertiary schools in the Central, Volta and Western Regions of Ghana. Specifically, it seeks to find out the available resources and if they differ among the school categories, the state of the available resources, teachers' access to the available resources and the effects of the non-availability of these resources on teaching and learning. The study used pragmatist paradigm approach mainly through Mixed-Methods Explanatory Sequential design

The availability of these school resources play a major role in teaching and learning. It is observed that these resources are either not available or if available are not accessible or in a bad state. Irrespective of the divergent views of researches, this study seeks to track the supply, utilization of school resources and the effects on teaching and learning if not available.

Objectives of the study

The general objective of the study is to track the supply and utilization of school resources in Pre Tertiary Schools in the Greater Accra, Central and Volta regions of Ghana.

Research Questions

The study sought to find answers to the following research questions:

1. What resources are available for teaching and learning in Pre Tertiary Schools?
2. How often are the available teaching resources in Pre Tertiary Supplied?
3. What is the current state of resources for the teaching and learning in Pre Tertiary schools?
4. What are the effects of the non-availability of these resources to teaching and learning in Pre Tertiary schools?

Significance of the Study

The findings from the research may disclose the availability of school resources and their state for the teaching and learning in Pre Tertiary schools. It will also inform the researcher about how those resources are acquired and also how often they are supplied, Researchers who will replicate this study in other regions will benefit immediately from the knowledge gained from this effort.

Delimitations

It will be hasty to generalize the findings of the study to all Pre Tertiary Schools in Ghana since the respondents were selected from only three (3) regions in Ghana.

Limitations

The study may be limited in some sense because it is most likely Some Headmasters will not be willing to allow the study to be conducted in their schools. Issues of participant bias could affect the quality of the data with reference to the interview.

Methodology

The study took place in three regions out of the ten (10) administrative regions within the coverage of activities of the Coalition. The selected regions are the same three areas identified as focal areas for the implementation of activities under the Education Out Loud (EOL) project, from where the six districts were identified for the selections of the target schools. The Table 1 shows the regions and district for the study:

Table 1: Study areas for the study

REGION	DISTRICT
CENTRAL	ASSIN CENTRAL
	MFANTSEMAN
GREATER ACCRA	ABLEKUMA WEST
	ADA EAST
VOLTA	ADAKLU
	AGOTIME ZIOPE

Research Design

The purpose of a research and its objectives determines the type of research design to be used by the researcher (Katundu, 1998). A research design refers to the overall strategy that you choose to integrate the different components of the study in a

coherent and logical way (KirshenblattGimblett& Barbara, 2006). Koul (2003) also defined research design as a number of decisions needed to be taken concerning collection of data. The design therefore, constitutes a frame for the collection, measurement, and analysis of data. Fink (2001) describes research design as all the stages and the processes involved in reaching the respondents. A research design will typically include how data is to be collected, what instrument will be used and the intended means for analyzing the data collected.

This study will use the Mixed–Methods Sequential Explanatory design. This approach combines both quantitative and qualitative methods of research. According to Tashakkori and Teddlie (2003), multiple methods are useful if they provide better opportunities for a researcher to answer research questions. According to Stange et al. (2006). Mixed methods research involves integrating quantitative and qualitative approaches to generating new knowledge which can involve either concurrent or sequential use of these two classes of methods to follow a line of inquiry

Research Population

The population for this research will consists of six (6) schools in each selected region (Greater Accra, Central & Volta) specifically Three (3) public and Three (3) private schools.

Table 2 below shows the sampling for the study and the total numbers involved in the study.

Table 2...*Sampling profile*

REGION	DISTRICT		<i>PUBLIC</i>	<i>PRIVATE</i>
Central	ASSIN CENTRAL	6	3	3
	MFANTSEMAN	6	3	3
GREATER	ABLEKUMA WEST	6	3	3
ACCRA	ADA EAST	6	3	3
Volta	ADAKLU	6	3	3
	AGOTIME ZIOPE	6	3	3
Total	6	36	18	18

Data collection process

The data collection process will involve field assistants drawn from District Education for All Teams (DEFAT) from the district where the selected schools are located. The duration for data collection spanned a period of 5 days across the three (3) regions.

Ethical issues

The central ethical issue in research is protecting and safeguarding the right and dignity of the subject/participant as well as guaranteeing transparency in the different procedures of the conducting the study.

For this study the following ethical processes and disclosures were undertaken:

The development and reviewing of the tools followed the ethical principles for conducting research.

Participants and persons connected to the study were informed about the nature and purpose of the study. In addition, participants also learnt about the benefits and the potential risks of the study.

Participants were taken through the voluntary participation and the right to leave the study with assigning any reason for doing so.

Participants had the chance to study the document on confidentiality and anonymity for participating in the study.

Participants received the informed Consent Form which they read and in other situations was orally explained to them before appending their signature of consent.

Key partners in the study

Education Out Loud (EOL)

Ghana Education Service

Ministry Of Education

Defats

FINDINGS

Overview

This focuses on results that were obtained from the analyses of the data collected and the discussion of the findings revealed by this study. The results are presented on the following themes:

- i. Availability of educational resources
- ii. Supply of educational resources
- iii. The state of the available resources
- iv. Effects of the non-availability of these resources on teaching and learning

Available Educational Resources Research question 1

What resources are available for teaching and learning in pre tertiary Schools?

The first research question was to find out the available teaching and learning resources available in the various schools. The item used is a 2-point Likert scale to determine if a particular resource is available or not.

Table 1: *Available resources in the Pre-Tertiary Schools*

Resources	Available	Not Available
Syllabus	75%	25%
Textbooks	68.8%	31.2%
Library Books	56.2%	43.8%
Chalk/Marker Board	68.8%	31.2%
Computer software	31.2%	68.8%
Computers	50%	50%
Projector	12.8%	87.5%
TLMs	78.2%	21.8%
Furniture	89.0%	11%
Classrooms	81.2%	12.5%

Source: Field survey, 2022

Table 1 gives percentages of availability of resources in thirty-six (36) pre-tertiary schools in the regions under study. These schools are public and private schools. It can be inferred from table 1 that most schools had these resources but mostly not enough - syllabus, textbooks, library books, computers, classroom blocks, TLMs and furniture. A high percentage of schools did not have the remaining resources.

The result from the data analyzed revealed that majority of the schools had enough access to syllabus, textbooks and library books. This is so because the curriculum materials are the basic things a teacher needs to discharge his/her duties even if there are no classrooms because of their importance to education. Slattery and Carlson (2005) affirms the importance of a syllabus by saying that it is a contract between the teacher and the student and spells out what happens if a student failed to meet course expectations. As a contractual document, whatever is in it must be respected by both the teacher and student and for that reason, the Ghana Education Service and the ministry of education have made the syllabus available to all schools. Irrespective of these, basic schools do not have textbooks to augment the syllabus available this is making teaching and learning difficult.

Averagely, all the schools in the various categories have enough curriculum materials for use by both teachers and students.

. This result is in agreement with Education insight in Kenya (2005) which revealed that inadequate teaching and learning resources is a common feature in many schools. With the unavailability of most resources in schools, teachers will not be able to function at their best in terms of lesson delivery. How can teachers prepare their students for the world of work in this technological age when there are no computers, internet connection, and software to use in the teaching and learning of in our schools?

The result indicated that classroom blocks, library blocks and marker boards were available in all the schools but the only problem was that they were not enough. This has caused over-crowding in the classrooms where you can count as many as eighty or more students in a class which was to contain thirty-five to forty

students. Situations like this may not allow teachers to cater for the individual needs of the student since they cannot move round to supervise students' work.

Research Question 2

How are the available teaching resources in the Senior High School supplied?

The second research question focused on how the educational resources were supplied and how often is it supplied and by who. The result from the study shows that the government is the highest supplier of educational resources (Table 2). government.

Table 2: *Supply of educational resources to pre Tertiary schools*

Curriculum	Government	School	Teacher	PTA/NGO
Materials	Purchase	Purchase	Made	Donation
Syllabus	87.5%	6.2%	6.2%	0%
Textbook	93.8%	6.2%	0%	0%
Library books	6.2%	25.0%	0%	62.5%

Source: Field survey, 2022

Regarding the acquisition of curriculum resources, 56.2% of the respondents reported that marker board and technical instruments were purchased by the school and 25% indicated that they were supplied by the government (Table 2). However, 81.2% and 93.8% of the respondents reported that students bought their own and calculator respectively. Table 2 also revealed that 75.0% of respondents made it known that the schools were responsible for the purchase of projectors

with only 18.8% saying they were donated by the PTA/NGO. The acquisition of computer software, they were mainly by school purchase as indicated in table 2

Finally, 37.5% of respondents reported that computers were supplied by government and another 37.5% deemed that the computers were purchased by the schools. Additionally, 25.0% indicated that the computers were donations by the PTA/NGO.

Table 3: *Acquisition of educational resources*

Resources	GOVT Purchase	SCH Purchase	Teacher Made	PTA/NGO Donation	Student Purchase
Marker board	25.0%	56.2%	6.2%	0%	0%
Tech Instrument	0%	18,8%	0%	0%	81.2%
Calculators	0%	6.2%	0%	0%	93.8%
Projectors	0%	75.0%	0%	18.8%	0%
Solid Shapes	0%	50.0%	43.8%	0%	0%
Software	0%	81.2%	0%	0%	12.5%
Computers	37.5%	37.5%	0%	25.0%	0%

Source: Field survey, 2022

The study also revealed that 81.2% of the respondents indicated that the provision of classroom blocks and laboratories were the sole responsibility of the government (Table 4). In the case of library blocks, 43.8% said they were built by the school, whilst 31.2% said it was the government that built them.

Table 4: *Acquisition of Buildings and Furniture*

Materials	Purchase	Purchase	Donation
Classroom block	81.2%	12.5%	0%
Library block	31.2%	43.8%	18.8%
Curriculum	Government	School	PTA/NGO

Source: Field survey, 2022

Differences in resource availability across school categories

Hypothesis

H₁: There is a difference in the availability of resources in the school categories.

A Kruskal-Wallis test was later conducted to determine whether the school categories differ in the availability of curriculum materials. The result is presented in Table 5

The analysis of the results of the Kruskal-Wallis test conducted indicated that there was no significant difference in the availability of curriculum materials, ($X^2(3) = 0.00$, $p > 0.05$) across school categories. This means that all the school categories have equal quantities of curriculum materials.

Table 5: *Resources Availability in the school categories and School Types*

Factor	Category	N	Mean	Rank	Df	Sig
			2			
Availability	Category A	2	8.50		0.000 3	1.000
Of Curriculum Materials	Category B	4	8.50			
	Category C	5	8.50			
	Category D	5	8.50			

Source: Field survey, 2022

Table 6: *Availability of Buildings and Furniture across school categories*

Factor	Category	N	Mean Rank	Df	Sig
Availability of Furniture and Buildings	Category A	2	8.50	0.000	31.000
	Category B	4	8.50		
	Category C	5	8.50		
	Category D	5	8.50		

Source: Field survey, 2022

An observation was made in five selected schools from the previous 13 schools for the research. This was to ascertain the authenticity of the teaching and learning resources available in those schools. The five schools comprise one school each from categories ‘A’, ‘B’, ‘C’ and two from category ‘D’. The observation revealed that all the five schools did not have laboratory and enough classrooms per the number of students occupying each class. Although the schools have libraries, they are not equipped with relevant library books

An interview to verify Resource Availability

An interview with some teachers revealed that, although the schools had computers, they were not being used because schools did not have the necessary software to do that. Table 6 revealed that classroom blocks were available in all the schools but the interview revealed another side of the issue. A head teacher in one of the schools had this to say:

“Boss, can you believe a big school like this cannot boast of a single projector and not to mention of technical instruments. Most of these big schools like this one

only have names but all is not well in terms of the tools to use. We are just like any other school”

Another teacher had this to say: “teaching in this school is very difficult. Look at how the classroom is overcrowded. Teachers cannot meet the needs of individual students because of their number. We need more classrooms and teachers”

State of the Available Educational Resources

Research question 3

Table 7: *State of available Materials*

RESORCES	STATE
Syllabus	3.00
Textbooks	2.86
Library Books	2.11
Technical Instruments	2.7
Calculators	2.82
Computers	2.42
Computer software	0.88
Internet connectivity	0.88
Classroom Blocks	3.02
TLMs	1.44
Furniture	3.0
Chalk/Marker Boards	3.12

Considering the results in table 7, the state of marker board drawing instrument (2.57), textbooks for students (2.68), calculators (2.82) and computers (2.42) were considered as being fairly good. The state of TLMs (1.44) in the schools were bad. Projectors (0.88), computer software (0.75) and internet connectivity (0.18) were classified as not applicable because they were not in existence in the schools. This means the school has a lot of old technical tools with all the parts not in good

condition or not working at all Majority of the furniture used in the schools, the classrooms blocks and chalk/marker boards were in good state, since they recorded average values of 3.00, 3.02 and 3.12 respectively. The mean score for the library blocks was 2.27 which means that they were fairly good state.

Laboratories had an average value of 0.35 is considered as not applicable because the schools had none. School buildings and furniture in general were considered as being fairly good with an average value of 2.35. This is to say that most of the buildings and furniture in the school were old and some parts were not in good condition.

State of available resources during observation

During the observation, the researcher also observed some of the resources available in the schools visited. The result is shown in table 8.

Table 8: *State of Available school resources during observation*

Resources	Very good	Good	Fairly good	Bad
Textbooks				
Library books				
Notebooks				
Marker boards				
Tech instrument				
Instruments				
Calculators				
Computers				
Projectors				
Library block				
Classroom block				

Source: Field survey, 2022

Averagely, five of the resources observed in the schools studied were rated as being fairly good. These were textbooks, library books, computers, the library block and the classroom blocks. Two of the resources, namely teachers' notebooks and the marker board Technical instruments were also rated as good. The resources rated as being very good were the calculators used by students and the marker boards in the classrooms.

Research question 4

Effects of non-availability of these resources on teaching and learning

School is a place where children spend hours a day in different classrooms expecting to learn new ideas and topics. It is a place where the teachers are expected to teach kids history, math, science, or English etc. The students are expected to receive the information, and use it to decipher what it is they want to do when they get older; however, how are students meant to learn when their school and schools are not filled with the resources they need? All over the world, classrooms are not supplied with sufficient resources. Teachers must teach the students different subjects without the proper resources in their classrooms to do so. This problem is a problem - a problem that has many solutions but will ultimately take a while to be solved (Rittel 1973). The problem at hand is the lack of resources in classrooms and schools.

This problem affects students and teachers, which in turn can affect the parents of the children. The lack of resources in schools can cause extreme distress on the students and teachers. Not only are the students and teachers in distress, but they are unable to learn to their fullest potential because they are not being given the proper resources. Once we realize these problems, we then can investigate

solutions for it. Government is struggling to find enough money to spend on resources in their schools.

Conclusions

The study investigated teaching and learning resources available in pre tertiary schools in three (3) regions. Specifically, it tried to find out if the available resources differ among the school categories, the state of the available resources, and the effects of non availability of these resources on teaching and learning.

The research revealed that there is much significant difference between the school categories in terms of resources available for teaching and learning in the pre tertiary schools in Ghana.

Regarding the state of the available teaching and learning resources, it was revealed that most of the teaching resources in the schools are fairly good, that is they are old and all parts are not functioning well. This study also brought to light that most of the teachers use the teaching resources because they believe they benefit students and also because students like using them. To them, once the student showed interest in the use of the resources, it goes a long way to help them understand concepts in mathematics

Although all the school categories have enough curriculum materials, they all lack infrastructure in one way or the other. This was due in part to the fact that although categories 'A' and 'B' schools have more resources, they also admit more student than the categories 'C' and 'D' schools and that puts more pressure on their facilities which is the same problem faced by the less endowed schools. This is also due to the fact that government is not doing enough to upgrade the existing schools in terms of infrastructure.

Most of the respondents in the study indicated that the resources in their schools are fairly good. This means most of these resources are old and not in good condition. This is due to the fact that the Ghanaian maintenance culture is bad. A substantial number of the respondents rated the resources in their schools as good. These respondents are mainly from public schools which have vibrant old students' associations and parent and teachers' associations which donate items for the maintenance.

The research revealed that majority of the respondents make use of teaching and learning resources because they think it benefits students and also students like using them. The availability of educational resources in a long way reflects in their performance. The research finally discovered that lack of these resources is directly and indirectly affecting the performance of students per the response of respondents.

Recommendations

From the findings of this research, the following are recommended:

- i. The teachers should be encouraged to improvise the resources which are not available
- ii. Resources which are not in good condition should be repaired or replaced entirely.
- iii. Based on the findings from the study the government, teachers, and students are entreated to play their respective parts in ensuring the supply of resources for effective teaching and learning in pre tertiary schools.

Suggestions for further studies

The following are recommended for further studies:

A similar research should be conducted in other regions in Ghana and the results compared with the findings from this study

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