



# The Utilisation of Educational Resources on Academic Achievement: A Case of Boa Amponsem Senior High School and Dunkwa Senior High Technical School

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## Authors' contributions

This work was carried out in collaboration among all authors. Author DA conceptualised the idea. Author EAQJ performed the analyses and author RA wrote the methods. All authors read and approved the manuscript.

## Article Information

DOI: 10.9734/AJESS/2022/v26i230623

## Open Peer Review History:

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: <https://www.sdiarticle5.com/review-history/84550>

Original Research Article

Received 29 December 2021

Accepted 02 March 2022

Published 05 March 2022

## ABSTRACT

The study explored the utilisation of educational resources on academic achievement; a case of Boa Amponsem Senior High School and Dunkwa Senior High Technical School. The study used a descriptive research design with a quantitative approach. Census survey procedure was used to select teachers for the study and proportionate random sampling was also used to select students for the study. A questionnaire designed with literature was used to collect data for the study. Frequencies, percentages, descriptive statistics (i.e., mean and standard deviation), and, Pearson product-moment correlation was used to analyse the data that was gathered. The findings of the study revealed that educational resources available at Boa Amponsem Senior High School and Dunkwa Senior Technical School included a well-equipped library, well-equipped laboratory/studio, well-equipped computer lab, adequate classrooms, adequate desks and chairs in the classroom, adequate tables and chairs in the staff room, a school clinic, cafeteria/dining hall, adequate teaching

resources, adequate number of offices, reliable water supply, and reliable electricity supply. The study further revealed that there is maximum utilization of educational resources as students and teachers utilize facilities in the laboratory, facilities in the library, facilities in the agriculture/ home science/ computer room, reference books, and textbooks in learning. Again, the findings showed that challenges in the utilisation of educational resources available to Boa Amponsem Senior High School and Dunkwa Senior Technical High School included lack of skills/competencies required for the use, lack of adequate storage facilities, inadequate provision of such educational resources, large class size compared to the availability of educational resources, lack of internet connections to the labs and departments, an inadequate period for practical lessons and teachers have a lot of teaching periods and lack of maintenance of these educational resources. The finding of the study indicated that there was a low/weak positive insignificant correlation between utilisation of educational resources and academic performance of students. Recommendations were made for the provision of more educational resources, ensuring maximum utilisation, and addressing challenges in the utilisation of educational resources.

*Keywords: Educational resources; academic achievement; Senior High School.*

## 1. INTRODUCTION

Education is critical to a country's growth since it is the engine of progress for any country [1]. As a result, it is among the justifications why UNESCO named education a vehicle for and an indicator of growth in 2001, and in particular, compelling to be interested in their children's academic performance. In the observation of Coombs [2] education generally spans two indispensable elements, thus, inputs and outputs. Largely, inputs elements cover materials and humans as opposed to output that is, results and targets oriented within the systems of education. Significantly, however, the two elements are intertwined such that both parts combine to produce living and sustainable effort. In effect, the reality is that the result of one element on either must be studied if one wishes to study and appraise the system of education to increase efficiency.

Educational resources are critical in reducing the impact of socioeconomic factors on academic success and ensuring that all students have equal opportunities. Accordingly, the existence of teaching and learning resources (TLR) improves the efficiency of educational institutions since these are essential elements for students to achieve high academic results [3]. Corporations and institutions generally consist of individuals (staff) and inhuman resources (Infrastructure & logistics, etc.) [4]. Maicibi went on to say that by bringing together the proper amount and quality of human resources, it can control other resources to achieve institutional aims and objectives simultaneously. As a result, all institutions should try to recruit and keep the greatest human resources, because current

economic hardship, linked with the desire to expand educational opportunities, has left educational planners throughout the globe with progressively tough choices in resource allocation.

Balogun [5], writing on the importance of resources in teaching and learning, stated that scientific education programs are impossible to be taught successfully without the availability of teaching photography refers or equipment. This is largely because, teaching and learning materials (TLM) (resources) aid in the development of cognitive analytical skills and scientific stances in learners. When teaching and learning resources are provided to fulfill the comparative desires of the teaching and learning process, pupils will have access to the research material cited by the tutor, so individually, the pupil is capable of learning at his or her speed, resulting in significantly improved student performance [6].

In addition, according to Farombi [7], the existence, appropriateness, and applicability of teaching and learning materials in classrooms can impact excellent teaching, which can improve students' academic performance coupled with learning achievement. More importantly, Farombi's understanding of the relationship between teaching and learning materials and students' academic achievement has a significant impact on the provision of high-quality education. The existence of (a) textbooks and supplementary Teaching and Learning Materials (TLM), (b) explain well- trained and well-equipped, carefully supervised, and inspired teachers (human resources), and (c) appropriate physical facilities were found to be a rather

coherent quality in academic success by the Department for International Development (DFID) in [8]. Moreover, findings of Mbaria [9] Likoko, Mutsotso, and Nasongo [10] particularly on "the exact link for both teaching and learning resources and performance" show that higher-performing schools have more teaching and learning resources unlike low performing schools, as well as a big variation in resource availability with both high and low performing schools. Adeogun and Osifila [11] observed that there is a favourable correlation between students' academic success and their material resources, personal, and economic lives.

Since the United States' "1966 Equal Educational Opportunity Report", several nations have looked into the impact of schools on academic performance [12]. In reality, research looking at the link between educational resources in schools and academic success has produced a variety of outcomes. According to a body of research, school educational resources have little influence on pupils' academic success [13,14]. Some research, however, opposes this stance and suggests the exact reverse [15,16]. UNESCO [17] notes the primary obstacles to delivering excellent education include a lack of efficient and reliable leadership, limited educational materials, an inadequate quantity of trained instructors, deficits in teaching and professional competence, as well as others. Dinham [18] and Townsend [19] posited that bad results might be ascribed in part to the leader behaviours of headteachers, teacher output coupled with educational resources.

Academic performance is a significant interest area in Ghanaian educational delivery. Players such as tutors, parents, students, and society as a whole are interested in seeing pupils succeed academically. Abysmal scores in the West African Senior Secondary Certificate Examination in Dunkwa in recent years have given rise to legitimate worries. Senior High School performance has been reported to be low, which might be connected to the efficient use of teaching and learning resources in secondary schools. Since education is so important, every Senior High School tries to enhance the quality of education and the academic success of its students. According to Laddunuri [20] SHS education has been inconsistent, resulting in dismal cumulative examination scores.

Upon personal observation as tutors, particularly in the general accomplishment of students in the

WASSCE, present a mind-boggling one. This has, therefore, generated thoughts and stances among players (students, parents, teachers, educational administrators or political leaders, etc.) in the education industry. This is further convoluted by the fact that largely, test achievement(examination) remains the main basis for determining chances for future skill development and gainful employment. As established in the educational system of regular evaluation, Ghana's education system is mainly examination-oriented. As a result, poor test (examination) performance is usually attributed to the use and allocation of teaching and learning materials.

## 2. PROBLEM STATEMENT

Prior research has found that student academic success is linked to individual variations among students, socioeconomic characteristics of their upbringing, transformational leadership, and educational resources available at their present school. In current history, the link between socioeconomic characteristics and academic success has been widely researched globally [21]. Yet, research on school educational resources, style of leadership, and academic success is in little supply.

According to Nsubuga [22] the government's goal of providing high-quality education that leads to high academic achievement has yet to be realized. Consequently, major players have attempted but failed, to reverse the sharp decline in academic performance through research, instructional materials, leadership, quality instructors, compensation, incentive, and enhanced enforcement. Notwithstanding all of Ghana's educational reforms throughout the years, pupils' performance in the final test (examination) of Senior High School (SHS) still is not promising for some time to date. Students receiving grades A1-C6 in six disciplines (3 electives and 3 core topics), required by the National Accreditation Board's minimal entrance criteria to advance to the post-secondary level, were disappointing, according to Dogbey [23] who analysed students' performance using WAEC data.

Students' general performance at SHS, including Boa Amponsem SHS and Dunkwa Senior Technical High school, has not been particularly impressive. As result, some members of the public have blamed and criticized the instructors for the low grade and poor student results [24].

Insufficient teaching-learning materials (resources), low teacher motivation, inadequate motivation, and bad leadership have all been cited in previous research [25,26].

However, the crux of the issue is identified with the fact that 'Boa Amponsem' SHS has been outperforming Dunkwa SHTS academically while having the same number of educational resources, which has been a cause of worry for the Ghana Education Service (GES), and major players. In comparison to Dunkwa Senior Technical High School, Boa Amponsem academic record in public tests (examination), particularly at the WASSCE level, has been positive over the previous five years. Interestingly, the two schools are likewise in the same socio-economic milieu in Upper Denkyira East Municipal Assembly and are not far apart (a few kilometers).

Given the gravity of the issue, the study was inspired to identify the usage of resources that might impact the academic performance of students in schools due to protests from major players and the public at large particularly, on the performance of the two schools at the WASSCE level. While some of these unanswered problems are crucial to the discussion on the impact of resource allocation on pupils' academic performance in Ghana and Africa at large, they have received relatively little scientific attention from major players in both academia and society at large, hence, creating a gap that this study seeks to fill. The originality of this study stems from its empirical focus on a major player (School) particularly, SHS usage and conveying of information for students' successes.

### 3. RESEARCH QUESTIONS

To achieve the study's goal, a variety of research questions were created for both teachers and students. The following were the research questions addressed:

- What educational resources do 'Boa Amponsem SHS and 'Dunkwa' SHTS have?
- How well do 'Boa Amponsem' SHS and 'Dunkwa' SHTS School" use the educational resources available to them?
- What are the obstacles that "Boa Amponsem SHS and Dunkwa SHTS face in using educational resources?
- What link exists between educational resources and academic success at Boa Amponsem SHS and Dunkwa SHTS?

## 4. MATERIALS AND METHODS

### 4.1 Study Design

The descriptive research design was employed in this investigation. The purpose of descriptive research was to gather data to test hypotheses or answer research regarding the current state of the research topic [27]. Due to the complexity of the problem, data must be gathered using self-report measures, and significant volumes of data must be collected in a short period, hence the design was deemed acceptable for the study.

### 4.2 Population, Sample, and Sampling Procedure

Accordingly, in research, Gay [27] defined population as the group of people relevant to the research, the population to whom the study's findings should be extended. All senior high school instructors and students in Dunkwa Municipality were included in the research. Key actors serving as target population in this study spans tutors and pupils from the selected two Senior High Schools in the Dunkwa Municipality.

The method of picking a subset of people to reflect the larger population is known as sampling [28]. After employing a convenience sampling strategy to select the two senior high schools, a census survey procedure was applied to select teachers of the two schools for the study. Cooper and Schindler [29] asserted that a census survey involves the use of all members in any population of interest. They stated that a "census is feasible when the population is small". By this survey, every teacher from the two Senior High Schools was contacted to collect data by way of answering the research questions. Again, proportionate random sampling was utilized to choose SHS two (2) and SHS three (3) students from the two Senior High Schools, to ensure that all subjects have an equal probability of getting chosen and this was done due to the COVID-19 pandemic. This was because the SHS two (2) and three (3) students are very knowledgeable about the utilization of educational resources on academic achievement than SHS 1 students, hence the selection of SHS two (2) and three (3) students. In all, respondents for the study were made up of 73 teachers and 240 (104 SHS 2; 136 SHS 3) students.

### 4.3 Data Collection Instrument

Two forms of questionnaires (designed with previous literature) were used for data collection

- one for teachers and another for students. The questionnaires developed by the authors were validated through a pilot study and Cronbach's coefficient alpha was used to estimate the internal consistency. Cronbach's coefficient alpha obtained for the study was .741. for students' questionnaire and .779 for teachers' questionnaire. According to Fraenkel and Wallen [30] the reliability coefficient should be at least .70 and preferably higher. Therefore, the reliability obtained on the variables was justifiable for the study.

#### 4.4 Data Collection

The data were obtained on-site at the two schools. As expected, the authors visited the schools under study to establish rapport with the headmasters, teachers, and students and explained to them the purpose of their visit and study. Authorization to administer the questionnaire was requested after making required interaction with both the headmasters and teachers of the schools under study. The authors spent two weeks collecting data from teachers and students.

#### 4.5 Data Processing and Analysis

To arrive at a credible and valid statistical display coupled with analysis, the need to serially number each item for purpose of simple detection was connected to the questionnaires of this study. The data was fed into the PC using the Statistical Package for the Social Sciences

(SPSS) version 25.0 programming once it had been altered and coded. Frequency and percentages were used to analyze research question one; descriptive statistics (i.e., mean and standard deviation) were used to analyze research questions two, and three, whereas Pearson product-moment correlation was used to analyze research question four.

### 5. RESULTS

#### 5.1 Analyses of Research Questions (Students' Responses)

##### 5.1.1 Research Question One: educational resources available at Boa Amponsem SHS and Dunkwa SHTS

From Table 1, it is evident that educational resources available at Boa Amponsem SHS and Dunkwa SHTS included a sufficient number of desks and seats in the classroom, adequate tables and chairs in the staff room, adequate classrooms, reliable electricity supply, a school clinic, a well-equipped library, adequate number of offices, adequate teaching resources, reliable water supply, and cafeteria/dining hall. This indicates that the two schools have the necessary educational resources to facilitate teaching and learning. This also implies that the resources supplied will improve the effectiveness of the schools because they are the basic resources that help students achieve excellent academic results.

**Table 1. Educational resources available at Boa Amponsem SHS and Dunkwa SHTS**

Statements	N	Yes (%)	No (%)
Well-equipped library	240	160 (66.7)	80 (33.3)
Well-equipped laboratory/studio	240	67 (27.9)	173 (72.1)
Well-equipped computer lab	240	106 (44.2)	134 (55.8)
Adequate classrooms	240	172 (71.7)	68 (28.3)
Adequate desks and chairs in the classroom	240	188 (78.3)	52 (21.7)
Adequate tables and chairs in the staff room	240	188 (78.3)	52 (21.7)
The size of the playground is adequate	240	113 (47.1)	127 (52.9)
Adequate number of rest rooms	240	78 (32.5)	162 (67.5)
A school clinic	240	165 (68.8)	75 (31.3)
Assembly hall	240	89 (37.1)	151 (62.9)
Cafeteria / dining hall	240	122 (50.8)	118 (49.2)
Adequate teaching resources	240	139 (57.9)	101 (42.1)
The capacity of the dining hall is adequate	240	101 (42.1)	139 (57.9)
The number of offices allocated in the school is adequate	240	152 (63.3)	88 (36.7)
Reliable water supply	240	123 (51.3)	117 (48.8)
Reliable electricity supply	240	171 (71.3)	69 (28.8)

Source: Field Survey, (2021)

### 5.1.2 Research Question Two: Utilisation of educational resources available at Boa Amponsem SHS and Dunkwa STHS

Regarding the utilisation of educational resources available at the two schools, Table 2 reveals that the statements were supported by the majority of the students. "I make use of the facilities in the laboratory" (M=2.60, Std. Dev.=1.123), "I make use of the facilities in the library" (M=2.97, Std. Dev.=.993), "I make use of the facilities in the agriculture/ home science/ computer room" (M=2.71, Std. Dev.=1.030), "I make use of the reference books" (M=2.99, Std. Dev.=.937) and "I make use of the textbooks in learning" (M=3.19, Std. Dev.=.908). This is because the means of these statements are above the overall mean of 2.5. Students however disagreed with the statement that "I make use of the playfield" (M=2.48, Std. Dev.=1.097), "I make use of the recreational facilities" (M=2.43, Std. Dev.=.987), and "I participate in excursions or field trips" (M=2.36, Std. Dev.=1.089). The means of these statements are below the overall mean of 2.5. It can thus be inferred from the results that students of Boa Amponsem SHS and Dunkwa STHS utilise facilities in the laboratory, facilities in the library, resources/facilities in the agriculture/ home science/ computer room, reference books, and textbooks in learning. When one looks critically at these educational resources, it is noticed that the educational resources are available, however, students don't need to provide or produce them, nor have personally to be utilised. As the case may be, normally these educational materials are provided by the government to the schools and imply that students are not required to provide their educational resources, and therefore are at liberty to utilize any educational resources available to the schools. Again, the students who are being taught might not be able to excel academically if they do not know most of these contemporary educational resources and how to utilize them.

### 5.1.3 Research question three: Obstacles that "Boa Amponsem SHS and Dunkwa STHS face in using educational resources

There is an indication from Table 3 that challenges in the utilisation of educational resources available at Boa Amponsem SHS and Dunkwa STHS, majority of the students agreed to the statements; "lack of skills/competencies

required for the use" (M=2.55, Std. Dev.=1.078), "lack of adequate storage facilities" (M=2.65, Std. Dev.=1.048), "inadequate provision of such educational resources" (M=2.66, Std. Dev.=.985), "large class size compared to the availability of educational resources" (M=2.58, Std. Dev.=1.012), "lack of internet connectivity to the labs and departments" (M=2.73, Std. Dev.=1.109), "inadequate period for practical lessons" (M=2.81, Std. Dev.=1.056) and "teachers have a lot of teaching periods" (M=2.84, Std. Dev.=.952). This is because the means of these statements are above the overall mean of 2.5. Students however disagreed with the statement "inadequate supply of electricity" (M=2.43, Std. Dev.=1.091), "lack of maintenance of these educational resources" (M=2.45, Std. Dev.=1.018), and "poor teachers' attitude to work/lack of commitment" (M=2.01, Std. Dev.=1.045). The means of these statements are below the overall mean of 2.5. It can however be inferred from the result that, the challenges that students of Boa Amponsem SHS and Dunkwa STHS face concerning the utilisation of educational resources include; lack of skills/competencies required for the use, lack of adequate storage facilities, inadequate provision of such educational resources, large class size compared to the availability of educational resources, lack of internet connections to the labs and departments, an inadequate period for practical lessons and teachers have a lot of teaching periods. hinder students and teachers from improvising their educational resources. This implies that amidst these challenges, the students will perform at a low rate therefore, teachers must be innovative in developing appropriate teaching materials and devoted to improvisation to improve academic achievement in schools.

## 5.2 Analyses of Research Questions (Teachers' Responses)

### 5.2.1 Research Question One: Educational resources available at Boa Amponsem SHS and Dunkwa STHS

From Table 4, it is evident that educational resources available at Boa Amponsem SHS and Dunkwa STHS included a well-equipped library, well-equipped laboratory/studio, well-equipped computer lab, adequate classrooms, adequate tables and chairs in the classroom, desks, and chairs in the staff room, a school clinic, reliable water supply, and reliable electricity supply. This implies that the availability of these educational

materials would be a successful plan for implementing effective teaching and learning that can improve students' learning and academic performance.

**Table 2. Utilisation of educational resources available at Boa Amponsem SHS and Dunkwa STHS**

Statements	N	Mean	Std.
I make use of the facilities in the laboratory	240	2.60	1.123
I make use of the facilities in the library	240	2.97	.993
I make use of the facilities in the agriculture/ home science/ computer room	240	2.71	1.030
I make use of the reference books	240	2.99	.937
I make use of the textbooks in learning	240	3.19	.908
I make use of the playfield	240	2.48	1.097
I make use of the recreational facilities.	240	2.43	.987
I participate in excursions or field trips	240	2.36	1.089

Source: Field Survey, (2021)

**Table 3. Obstacles that "Boa Amponsem SHS and Dunkwa STHS face in using educational resources**

Statements	N	Mean	Std.
Lack of skills/competencies required for the use	240	2.55	1.078
Lack of adequate storage facilities	240	2.65	1.048
Inadequate provision of such educational resources	240	2.66	.985
Inadequate supply of electricity	240	2.43	1.091
Large class size compared to the availability of educational resources	240	2.58	1.012
Lack of internet connections to the labs and departments	240	2.73	1.109
Inadequate period for practical lessons	240	2.81	1.056
Teachers have a lot of teaching periods	240	2.84	.952
Lack of maintenance of these educational resources	240	2.45	1.018
Poor teachers' attitude to work/lack of commitment	240	2.01	1.045

Source: Field Survey, (2021)

**Table 4. Educational resources available at Boa Amponsem SHS and Dunkwa SHTS**

Statements	N	Yes (%)	No (%)
Well-equipped library	73	47 (64.4)	26 (35.6)
Well-equipped laboratory/studio	73	39 (53.4)	34 (46.6)
Well-equipped computer lab	73	49 (67.1)	24 (32.9)
Adequate classrooms	73	46 (63.0)	27 (37.0)
Adequate desks and chairs in the classroom	73	64 (87.7)	9 (12.3)
Adequate tables and chairs in the staff room	73	61 (83.6)	12 (16.4)
The size of the playground is adequate	73	28 (38.4)	45 (61.6)
Adequate number of restrooms	73	9 (12.3)	64 (87.7)
A school clinic	73	65 (89.0)	8 (11.0)
Assembly hall	73	34 (46.6)	39 (53.4)
Cafeteria / dining hall	73	22 (30.1)	51 (69.9)
Adequate teaching resources	73	25 (34.2)	48 (65.8)
The capacity of the dining hall is adequate	73	19 (26.0)	54 (74.0)
The number of offices allocated in the school is adequate	73	21 (28.8)	52 (71.2)
Reliable water supply	73	37 (50.7)	36 (49.3)
Reliable electricity supply	73	67 (91.8)	6 (8.2)

Source: Field Survey, (2021)

**5.2.2 Research question two: Utilisation of educational resources available at Boa Amponsem SHS and Dunkwa STHS**

From Table 5, as regards the utilisation of educational resources available at Boa Amponsem SHS and Dunkwa STHS, the majority of the teachers agreed to the statements; “I make use of the facilities in the laboratory” (M=2.60, Std. Dev.=1.123), “I make use of the facilities in the library” (M=2.97, Std. Dev=.993), “I make use of the facilities in the agriculture/ home science/ computer room” (M=2.71, Std. Dev.=1.030), “I make use of the reference books” (M=2.99, Std. Dev.=.937) and “I make use of the textbooks in learning” (M=3.19, Std. Dev=.908). This is because the means of these statements are above the overall mean of 2.5. Students however disagreed with the statement that “I make use of the playfield”

(M=2.48, Std. Dev.=1.097), “I make use of the recreational facilities” (M=2.43, Std. Dev.=.987), and “I participate in excursions or field trips” (M=2.36, Std. Dev.=1.089). The means of these statements are below the overall mean of 2.5. It can however be inferred from the result that teachers of Boa Amponsem SHT and Dunkwa SHTS utilise facilities in the laboratory, facilities in the library, facilities in the agriculture/ home science/ computer room, reference books, and textbooks in learning. This implies that the adequacy and utilisation of instructional facilities for teaching are low and a teacher would not be able to use any instructional materials when such materials are not in place. As it is known, the value of high-quality educational resources in teaching and learning may be demonstrated by their availability and successful use in the classroom, which will make learning more engaging and memorable.

**Table 5. Utilisation of educational resources available at Boa Amponsem SHS and Dunkwa STHS**

Statements	N	Mean	Std.
I make use of the facilities in the laboratory	73	2.60	1.123
I make use of the facilities in the library	73	2.97	.993
I make use of the facilities in the agriculture/ home science/ computer room	73	2.71	1.030
I make use of the reference books	73	2.99	.937
I make use of the textbooks in learning	73	3.19	.908
I make use of the playfield	73	2.48	1.097
I make use of the recreational facilities.	73	2.43	.987
I participate in excursions or field trips	73	2.36	1.089

Source: Field Survey, (2021)

**5.2.3 Research question three: Obstacles that "Boa Amponsem SHS and Dunkwa STHS face in using educational resources**

**Table 6. Obstacles that "Boa Amponsem SHS and Dunkwa STHS face in using educational resources**

Statements	N	Mean	Std.
Lack of skills/competencies required for the use	73	2.18	.872
Lack of adequate storage facilities	73	2.67	.765
Inadequate provision of such educational resources	73	2.78	.804
Inadequate supply of electricity	73	1.89	.774
Large class size compared to the availability of educational resources	73	2.45	1.001
Lack of internet connections to the labs and departments	73	2.88	1.053
Inadequate period for practical lessons	73	2.74	.986
Teachers have a lot of teaching periods	73	2.68	.880
Lack of maintenance of these educational resources	73	2.77	.906
Poor teachers' attitude to work/lack of commitment	73	2.01	.858

Source: Field Survey, (2021)



**5.2.4 Research Question Four: Correlation between utilisation of educational resources and academic performance of students**

It can be observed from Table 7 that there is a low/weak positive insignificant correlation between utilisation of educational resources and academic performance of students ( $r = .068, p = .296$ ). This means that there is a low/weak correlation between utilisation of educational resources and academic performance of students, but such correlation is not significant. Thus, the academic performance of students is not very much influenced by the utilisation of educational resources. This means that school educational resources are just not at a level where they can impact students' academic performance/achievement.

**6. DISCUSSION**

**6.1 Educational resources available at Boa Amponsem SHS and Dunkwa SHTS**

The first research question sought to find out students' and teachers' views about educational resources available at Boa Amponsem SHS and Dunkwa SHTS. The findings indicated that educational resources available at Boa Amponsem SHS and Dunkwa SHTS included a well-equipped library, well-equipped laboratory/studio, well-equipped computer lab, adequate classrooms, adequate desks and chairs in the classroom, adequate tables and chairs in the staff room, a school clinic, cafeteria/dining hall, adequate teaching resources, adequate number of offices, reliable water supply, and reliable electricity supply.

The study's findings accord with Osei-Mensah [31] who believes that having educational materials available helps children learn more easily about topics that are concrete and immediately accessible to their senses—visual, aural, tactile, and kinesics. To him, educational resources are very important because; they bring to light things that are far beyond the learner's environment nearer, they provide a means for learners to manipulate or handle materials or objects for better understanding of things, they make abstract ideas and they create and sustain interest, which results in full participation and attention of learners. The findings of the study imply that the availability of educational resources in the two schools will enhance teaching and learning because the availability and use of these resources strengthen teachers' teaching and presentation skills while helping their students capture a specific message. Thus, the availability and use of modern educational tools and materials may improve educational quality in a variety of ways, including raising student motivation and engagement, aiding the acquisition of fundamental skills, and improving teacher training. Therefore, these educational resources should be provided in quality and quantity in the schools for an effective teaching-learning process.

**6.2 Utilisation of Educational Resources Available to Boa Amponsem SHS and Dunkwa SHTS**

This research question sought to find out the utilisation of educational resources available to Boa Amponsem SHS and Dunkwa SHTS. Students and teachers use facilities in the (laboratory, library, agriculture/ home

**Table 7. Correlation between utilisation of educational resources and academic performance of students**

		<b>Utilisation educational Resources</b>	<b>of Students' performance</b>
Utilisation of educational resources	Pearson correlation	1	.068**
	Sig. (2-tailed)		.296
Students' performance	N	240	240
	Pearson correlation	0.68**	1
	Sig. (2-tailed)	.296	
	N	240	240

Source: Field Survey, (2021)

science/computer room) and use reference books and textbooks for teaching and learning, according to the study's findings. This finding is consistent with Olagunju [32] who found similar results and noted that the utilisation of educational resources in the classroom leads to successful learning since it excites and motivates students. Umeoduagu [33] asserted that educational resources could only be used when they are provided, and also those educational institutions should invest in this area to ensure proper use of materials, skills, and resources for effective scientific learning. For successful teaching and learning, quality and quantity facilities in science, technical, and mathematics classrooms should be given.

As a result, the study suggests that a school should make full use of its educational resources to improve the learning possibilities accessible to students. The headteacher is responsible for ensuring that adequate educational resources and class size are available to enable the teaching and learning activities to take place, as well as ensuring that all facilities are used efficiently and effectively to reach specific goals and improve learning outcomes. As the provision of educational resources is the sole responsibility of the government, the government should be responsible for the provision of these resources, and heads of schools must ensure appropriate utilisation of the resources; with this, teaching and learning was enhanced effectively. The effective use of educational resources and materials will also increase teachers' training in the schools, thus teachers who use these materials for their lesson presentation must train themselves on their use. The study, therefore asserts utilisation of educational resources and materials will increase learner motivation and engagement by facilitating the acquisition of basic skills, as well as enhancing teacher training in the two schools.

### **6.3 Challenges in the Utilisation of Educational Resources Available to Boa Amponsem SHS and Dunkwa SHTS**

This research question also sought to find out challenges in the utilisation of educational resources available to Boa Amponsem SHS and Dunkwa SHTS. The findings of the study indicated that challenges in the utilisation of educational resources available to Boa Amponsem SHS and Dunkwa SHTS included lack of skills/competencies required for the use,

lack of adequate storage facilities, inadequate provision of such educational resources, large class size compared to the availability of educational resources, lack of internet connections to the labs and departments, an inadequate period for practical lessons and teachers have a lot of teaching periods and lack of maintenance of these educational resources.

The results concur with the findings by Onche [34] who pointed out that, lack of using educational resources in secondary schools was very much related to insufficient skills and creativity among the teachers and for that matter students. These, Onche opined, may hinder students and teachers from improvising their educational resources. If these challenges are not properly tackled by the government, educational planners, and all stakeholders in the field of education, then there were no great benefits that can be tapped in these contemporary technological developments. According to the findings, the two schools may perform poorly as a result of these obstacles, and to improve academic performance in the two schools, headmasters and teachers must be innovative in developing suitable educational or teaching resources and be committed to improvisation.

### **6.4 Relationship between Utilisation of educational Resources and Academic Achievement/Performance of Students**

The hypothesis of this study was to determine the exact relationship between the use of educational materials/resources and students' academic achievement/performance. According to the study's findings, there is a marginally significant link between the use of educational materials/resources and student academic achievement. This indicates that there is a close to zero relationship between the use of educational materials /resources and student academic achievement, although the relationship is not significant. As a result, the use of teaching materials/resources has little impact on pupils' academic achievement. Although Lyons (2012) stated that learning is a complex activity that involves an interplay of students' motivation, physical facilities, teaching resources, and skills of teaching and curriculum demands and that the availability of teaching-learning resources, enhances the effectiveness of schools as they are the basic resources that bring about good academic performance in the students, such is

not found from findings of the study, as the utilisation of educational resources in Boa Amponsem SHS and Dunkwa STHS has a low influence on the academic performance of students.

The finding is in disagreement with Tety [35] who discovered a link between TLM and intellectual excellence, added that teachers see teaching resources as critical to academic success as well as Adeogun [36] who revealed a strong positive link between instructional resources and academic performance. The finding implies that although there is maximum utilisation of educational resources in the two schools, utilization of these resources does not affect the academic performance of students. It can therefore be concluded from the findings of the study that the educational resources of the schools are not at a level that can affect the academic performance/achievement of the students in the two schools. This corroborates with the remarks of Hanushek [13] which is "it is a common result in the literature that the educational resources are not statistically effective". The influence of educational resources on student achievement/performance remains at the forefront.

## 7. CONCLUSION

**From the findings of the study, the following conclusions were drawn:** First and foremost, it was concluded from the findings that educational resources available at Boa Amponsem SHS and Dunkwa SHTS included a well-equipped library, well-equipped laboratory/studio, well-equipped computer lab, adequate classrooms, adequate desks and chairs in the classroom, adequate tables and chairs in the staff room, a school clinic, cafeteria/dining hall, adequate teaching resources, adequate number of offices, reliable water supply, and reliable electricity supply. The study, therefore, highlights that the availability of educational resources enhances the effectiveness of schools as they are the basic resources that bring about good academic performance in the students. These educational resources should be provided in quality and quantity in schools for an effective teaching-learning process.

Secondly, it was revealed from the findings that there is maximum utilisation of educational resources as students and teachers utilise facilities in the laboratory, facilities in the library, facilities in the agriculture/ home science/

computer room, reference books, and textbooks in learning. Therefore, the study highlights that a school should adequately utilise the available educational facilities to advance learning opportunities offered to pupils. It is the responsibility of the headteacher to ensure that there is adequate provision of educational resources, classroom space to enable the teaching-learning process to take place and also should ensure that all facilities are efficiently and effectively utilized to achieve educational goals and improve learning outcomes.

The study also concluded that challenges in the utilisation of educational resources available to Boa Amponsem SHS and Dunkwa STHS included lack of skills/competencies required for the use, lack of adequate storage facilities, inadequate provision of such educational resources, large class size compared to the availability of educational resources, lack of internet connections to the labs and departments, an inadequate period for practical lessons and teachers have a lot of teaching periods and lack of maintenance of these educational resources. These challenges may hinder students and teachers from improvising their educational resources. If these challenges are not properly tackled by the government, educational planners, and all stakeholders in the field of education, then there were no great benefits that can be tapped in these contemporary technological developments.

Lastly, there was a low/weak positive insignificant correlation between utilisation of educational resources and academic performance of students. This means that there is a low/weak correlation between utilisation of educational resources and academic performance of students, but such correlation is not significant. Thus, the academic performance of students is not very much influenced by the utilisation of educational resources. It can therefore be concluded from the findings of the study that educational resources of the schools are not at a level that can affect the academic performance/achievement of the students.

## 8. RECOMMENDATION

The findings from this study had the under listed recommendations for stakeholders, headmasters, teachers, and students of Boa Amponsem SHS and Dunkwa SHTS:

- The government is encouraged to continuously give more financial support to schools to provide basic educational resources like classrooms, laboratories, textbooks. Government should also recruit competent and adequately trained teachers and deploy them to all schools. This will improve the teacher-student ratio.
- There is a need for all stakeholders in the educational sector in this country to provide adequate modern educational resources not only to Boa Amponsem SHS and Dunkwa SHTS but also to all senior high schools. This will make Ghana rub shoulders with other countries of the world that are technologically developed. This will also greatly promote teaching and learning in senior high schools.
- The heads of schools should educate by parents, philanthropists, and other charitable organizations on the importance of improving and promoting adequate educational resources in senior high schools and that success or failure of a student will not only depend on the content that the students receive in class as well as access to educational materials for further review by his or her own.
- Ministry of Education should always organize seminars, workshops to train teachers on the use of contemporary educational resources and materials so that when such resources and materials are supplied in schools, they will not be difficult for the teachers to use and teach their students also. Teachers should put in more effort to teach their students how to use these contemporary educational resources and materials even if it means them bringing individually, or borrowing from other schools or places that have such materials.

### **SUGGESTIONS FOR FURTHER RESEARCH**

Due to the limitation of the research work to Boa Amponsem SHS and Dunkwa SHTS, the findings may not give a true picture of the utilisation of educational resources on the academic achievement of students nationwide. Hence, it is suggested that future research in a similar paradigm be conducted in other senior high schools. It is also suggested that other data analysis instruments should be adopted in other

research work to see how they can help improve this research.

### **CONSENT AND ETHICAL APPROVAL**

Considering the scope of the study, ethical considerations, such as voluntary involvement, anonymity, privacy, and informed consent were strictly observed in the conduct of this study.

### **COMPETING INTERESTS**

Authors have declared that no competing interests exist.

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