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## **The Perspective of Students on Factors Affecting Their Academic Performance at the Tertiary Level**

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### **Authors' contributions**

*This work was carried out in collaboration between all authors. Authors MS, IBN and MRM designed the study. Author MS carried out the literature review, supervised the data collection and performed the statistical analysis. Author IBN wrote the first draft of the manuscript. Author MRM managed the analyses of the study. All authors read and approved the final manuscript.*

**Original Research Article**

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### **ABSTRACT**

**Aims:** To determine the factors that affect students' academic performance at tertiary institutions with the view of enhancing learning.

**Study Design:** Survey was adopted as the research method for this study.

**Place and Duration of Study:** University of Ghana, Kwame Nkrumah University of Science and Technology, and University for Development Studies, Ghana, between April 2012 and June 2012.

**Methodology:** Sample: We included 670 students (363 men, 307 women; age range 17-38 years).

**Results:** The analysis of variants (ANOVA) showed that, the regression analysis is 726.513 at 0.05 alpha levels; it therefore implies that, there is a significant relationship between infrastructure provision and academic performance of students. It implies that, the higher the provision of infrastructure the higher the performance of students. Furthermore there was a significant correlation between the sum of the squares (254.235)

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and the mean square (254.235), which also implies that, the performance of students' is dependent on infrastructure provision.

**Conclusion:** The analyses revealed that the major factor affecting student's academic performance was infrastructure provision. The regression analysis further showed that, there is a strong relationship between the provision of educational infrastructural facilities and academic performance.

*Keywords: Education; students; academic; performance; infrastructure.*

## 1. INTRODUCTION

Over the years, the academic performance of students at tertiary institutions has recently come under the limelight. Although, many studies have examined the factors that affect the academic performance of students at the tertiary institutions in many developed and developing countries, very few research studies have been carried out in Ghana. Consequently, this paper attempts to examine the factors that affect students' academic performance at tertiary institutions in Ghana.

Tertiary Education is defined here as the education offered after a higher secondary level at a university, polytechnic, specialized institution, Open University or any other institution that provides training that leads to the award of a diploma and /or degree.

For the purpose of this paper, educational infrastructure is defined as a support system, which refers to the physical, economic and social-cultural facilities and services that form the foundation as well as the tool for institutional development and growth. This includes but is not limited to; lecture halls, residential accommodation, street lights, transportation, communication facilities, public address systems, furniture and fittings at lecture hall, water, library facilities, and internet.

Students are the main assets of universities. They are the pivot point around which tertiary institutions revolves. Tertiary education ensures the acquisition of knowledge and skills that enable people to increase their productivity and standard of living which leads to the social and economic development of a country. The quality of students' academic performance remains a top priority for educators and stakeholders. Stakeholders, educators, parents, students and researchers have all been interested in exploring variables contributing effectively for quality of performance.

The academic performance of students has remained a top priority for students, educators, researchers, governments, parents and administrators.

Researchers generally agree that a number of factors exert significant influence on the academic achievements of students' at tertiary institutions. Recently, there has been a resurgent debate in the field of students' learning on factors that influence students' academic performance. [1,2,3] found that there is a causal effect of absence on performance for students: missing class leads to poorer performance [4]. Posited that- parents' education, family income, self motivation, age of student, learning preferences, and class attendances are factors that contribute to positive academic performance.

The factors under teaching characteristics includes: clarity of teaching and teaching methodology. The factors under departmental characteristics include: course design and objectives, learning materials availability, assessment procedure and workload [5].

There are various factors in the learning environment, outside the school and in the students themselves, which affect the way they go about learning and the subsequent academic results they achieve. [6,7] described a model in which they discerned three groups of influencing factors on students' learning: students' characteristics, teaching characteristics, and departmental characteristic. Among the students characteristics they mentioned prior knowledge, intellectual abilities, learning style, personality, attitudes to courses, motivation, work habits and study skills. According to [8,9,10,] the physical environment contributes to shaping students' behaviour and academic achievement in schools.

[11] Concluded that students who missed class on a given date were more likely to respond incorrectly to questions relating to material covered that day than students who were present. [12] Indicated that class attendance enhances learning: on average, students who came to classes most made the highest grades despite the fact that they received no points for coming to class.

[13] However stated that entry qualifications are factors that have a significant effect on the students' academic performance in various settings. He further explored the relationship between student class attendance and exam performance and concluded that, there was a positive correlation between the two.

[14] Argues that:- learning is not only a product of formal schooling but also of communities, families and peers. Socio-economic and socio-cultural forces can affect learning and thus school achievement.

According to [15] factors that contribute to positive academic performance include students' effort and previous schooling.

[16] stated that,- factors that contribute to positive academic performance include factors such as number of hours spent on studies, financial background of parents, lecture attendance, gender, group discussion and educational background of parents.

According to [17,18]: Students' learning patterns are conceptualized on four learning components: Cognitive processing strategies, conceptions of learning, and learning orientations. They further posited that, - the way students learn is the results of the interaction between the person and his or her environment. According to: [19] "personal influences cause consistency in the way students learn, environmental, or contextual influences are responsible for variability".

## **2. METHODOLOGY**

This research is mainly quantitative and the focus was on random sampling of respondents for generalization.

The minimum sample size for this study was derived from [20] Table for Determining Sample Size. The sample size for the study was 670 students (363 males and 307 females). The source of data for this study is primary data acquired through questionnaire. This study targeted only public universities. Three public universities were purposively selected. The

universities selected were: University of Ghana, Legon to represent the coastal zone, Kwame Nkrumah University of Science and Technology to represent the middle belt, and University for Development Studies to represent the northern zone.

## **2.1 Reliability Test**

Reliability was ascertained by doing a pilot study at the University for Development Studies. Thirty questionnaires were administered during the pilot study. After receiving the completed questionnaires, reliability was further ascertained by subjecting the instruments to a reliability tests using Cronbach's Alpha Coefficient. If a reliability coefficient of not less than 0.60 was attained an instrument was considered reliable. The pilot study of the instrument yielded a Cronbach's alpha coefficient of 0.68 which is presented in Table 1 below.

**Table 1. Reliability statistics**

<b>Cronbach's Alpha</b>	<b>N of items</b>
0.68	30

## **3. RESULTS AND DISCUSSION**

After receiving the completed questionnaires, the researchers inspected all of them for completeness. Analysis of the data was performed using the Statistical Package for Social Science (SPSS) computer program (version 16). Descriptive statistics such as frequencies, percentages and mean were used to analyze the data. Tables and figures were used to present the analyzed data.

**Table 2. Sex of respondents**

	<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>	<b>Cumulative Percent</b>
Male	363	54.2	54.2	54.2
Female	307	45.8	45.8	100.0
<b>Total</b>	<b>670</b>	<b>100.0</b>	<b>100.0</b>	

Table 2 shows the sex of respondents. Fifty four per cent of the respondents were male while 45.8% were females.

**Table 3. Mean age of respondents**

		<b>Total</b>	<b>Total</b>
N	Valid	670	670
	Missing	0.0	0.0
Mean			22.7716

The mean age of the respondents was 22.7 as shown in Table 3 above.

**Table 4. Respondents academic performance**

<b>Grade point average (GPA)</b>	<b>No of respondent (students)</b>	<b>Percentage (%)</b>
3.50 – 4.49	175	26
2.50 – 3.49	370	55
2.00 – 2.49	89	13
1.50 – 1.99	20	3.0
<1.50	16	2.0
<b>Total</b>	<b>670</b>	<b>100</b>

From Table 4 above, it can be seen that majority of the student's GPA fall within the range 2.50 – 3.49 (55%) which can best be described as an average performance.

The students' identified several factors that affect their academic performance. Educational infrastructure constituted 89.5% of responses as the major factor affecting their academic performance, while educational background of parents was the least cause factor affecting academic performance of students constituting 0.2% of responses. The other factors identified were; - quality of lecture delivery 8.6%, financial background of students' parents 1.4%.

### 3.1 Regression Analysis

The regression analysis presents the model summary, ANOVA and Coefficient with the following hypothesis:

H<sub>A</sub>: There is a relationship between provision of educational infrastructure and academic performance of students.

H<sub>0</sub>: There is no relationship between provision of educational infrastructure and academic performance of students.

Using regression analysis to determine the relationship between infrastructure provision and students' academic performance, the results in Table 6 indicated that, 52.1% of the analyses were explained with; educational infrastructure, quality of lecture delivery, financial background of students' parents and educational background of parents as presented in Table 5 at 95% confidence interval as indicated in Table 8. This implies that, there are other factors that also influence students' academic performance apart from the aforementioned variables which this research did not capture which is suggested for future research.

**Table 5. Factors affecting student's academic performance**

<b>Factors</b>	<b>No of respondents (students)</b>	<b>Percentage (%)</b>	<b>Rank</b>
Inadequate educational infrastructure	600	89.5	1 <sup>st</sup>
Quality of lecture delivery	58	8.6	2 <sup>nd</sup>
Financial background of students' parent	10	1.4	3 <sup>rd</sup>
Educational background of parents	0.2	0.2	4 <sup>th</sup>
<b>Total</b>	<b>670</b>	<b>100</b>	

**Table 6. Model summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.722 <sup>a</sup>	0.521	0.520	0.59156

a. Predictors: (Constant), Inadequate educational infrastructure

**Table 7. ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	254.235	1	254.235	726.513	0.000 <sup>a</sup>
	Residual	233.759	668	350		
	<b>Total</b>	<b>487.994</b>	<b>669</b>			

a. Predictors: (Constant), inadequate educational infrastructure

b. Dependent Variable: Respondents Academic Performance

The analysis of variance (ANOVA) as presented in Table 7 above showed that, the regression analysis is 726.513 at 0.05 alpha levels; it therefore implies that, there is a significant positive relationship between infrastructure provision and academic performance of students. It implies that, the higher the provision of infrastructure the higher the performance of students. Furthermore, there is a significant correlation between the sum of the squares (254.235) and the mean square (254.235) which also implies that, the performance of students is dependent on infrastructure provision.

**Table 8. Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error				Lower Bound	Upper Bound
1 (Constant)	0.256	0.069		3.721	0.000	0.121	0.391
Inadequate educational infrastructure	1.553	0.058	0.722	26.954	0.000	1.439	1.666

a. Dependent Variable: Respondents Academic Performance

It can therefore be concluded that there is a relationship between provision of educational infrastructure and academic performance of students. Therefore we accept;

H<sub>A</sub>: There is a relationship between provision of educational infrastructure and academic performance.

#### 4. CONCLUSION

From the above analysis, it can therefore be concluded that there is a greater level of agreement among the respondents about the factors that influence their academic performance. The analyses revealed that the major factor affecting student's academic performance was infrastructure provision. The regression analysis further showed that, there is a strong relationship between the provision of educational infrastructure facilities and academic performance.

It would therefore not be an overstatement to say that the provision of adequate educational infrastructural enhances high academic performance.

## **COMPETING INTERESTS**

Authors have declared that no competing interests exist.

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