Original Research Article

Factors Affecting the Academic Performance of the Students of Bowen University, Nigeria

ABSTRACT

Aim: The aim of this study was to assess how some internal and external classroom factors influence students' academic performance in Bowen University.
Study design: This study was a primary research which employed a questionnaire survey design capable of gathering large amount of quantitative and qualitative data in one survey.
Place and Duration of Study: Bowen University, Iwo, between March 2017 and May 2017.
Methodology: A sample of 380 students (144 males, 236 females) was drawn from a population of 3,819 students. In addition, a questionnaire administered to collect data was analyzed using descriptive statistics, independent samples t-test, analysis of variance test and Chi-Square test for independence.
Results: the results from the independent samples t-test revealed a significant difference between the academic performance of male and female students, students who are active and students who are not active in their departmental association (P<.05); analysis of variance test revealed that there was a significant difference between the academic performance of students based on library usage, their faculties, social media presence and participation in extracurricular activities (P<.05); the Chi-Square test of independence revealed a significant relationship between students' academic performance and social media usage, study habit, boyfriend/girlfriend relationship status and participation in extracurricular activities (P<.05).

Conclusion: Some internal and external factors affect the academic performance of students positively while some have no significant effect on the academic performance of students. It is therefore pertinent to put measures in place to ensure that students are equipped with the right information and exposed to the right balance to enable them function optimally and thus perform well academically.

Keywords: [} (Academic performance, Internal classroom factors, External classroom factors)

1. INTRODUCTION

Background

Students are the key asset of universities. They are the main component of the university structure. As such, universities attempt to empower students through a rigorous and thoroughly outlined curriculum by emphasizing and rewarding good academic performance. The performance of students is therefore considered an important player in the production of best quality graduates who will become great leaders and provide adequate manpower to enhance the country's economic and social development. In the same vein, academic achievement is one of the major criteria considered by employers in hiring workers, especially fresh graduates. Thus, students have to put the greatest effort in their study to obtain good grades and to prepare themselves for future opportunities in their chosen career as well as fulfill the employer's demand(s).

It is well established that Education in Nigeria is growing as a profitable industry with prime objective of maximizing profit by delivering high quality education that produces well-educated, skilled, mannered students according to needs and requirements of the dynamically growing market. It is therefore pertinent to consider factors that affect the performance of students either positively or negatively but measuring of academic performance of students is challenging since student performance is a product of socio-economic, psychological and environmental factors. Thus, this study tends to investigate these factors and their impact on the performance of students in Bowen University.

Problem Statement

Today, employers have become increasingly concerned about the quality of university graduates being produced by universities due to the fact that a number of universities are experiencing high rate of student failure and low academic performance. It is thus imperative that the performance of students be evaluated in the light of producing graduates capable of holding their own in their chosen career path as well as meeting the increasing demands of the employers. As such, there is a dire need to examine the factors that affect the performance of students in order to find out the impact of such factors and identify areas that need immediate and necessary action(s).

Literature Survey

Many researchers have discussed the different factors that affect the academic performance of students. They generally agree that there are two types of factors that affect the students' academic performance. These are internal and external classroom factors and these factors strongly affect the students' performance. Internal classroom factors include students competence in class, schedules, class size, environment of the class, complexity of the course material, teachers role in the class, examinations systems etc. External classroom factors include extracurricular activities, social factor among other problems.

Researchers such as Borde[1], Meece and Jones [2], Hedges and Newell [3] and Woodfield and Earl-Novell [4] explored the role of gender in academic performance. With regard to the impact of student age on academic performance, Trueman and Hartley [5], Newman-Ford, Lloyd and Thomas [6] among others are important works. Silliker and Quirk [7], Gerber [8], Marsh and Kleitman [9], Guest and Schneider [10] investigated the impact of extracurricular activities on academic performance. Studies conducted by Romer [11], Durden and Ellis [12] explored the relationship between student class attendance and academic performance. Researchers such as Hossler and Stage [13], Eccles and Harold [14], Ermisch and Francesconi [14], Hijazi and Naqvi [16] studied the effect of family background factors such as the educational level of the parent, family income or finance, parent support and educational expectation on student's academic performance. As regards the impact of modern technology on academic performance, studies include Fabian [17]. Various studies have explored the effect of peer influence on academic performance. They include Wilkinson and Fung [18], Giuliodori, Lujan and DiCarlo [19], Goethals [20]. The role

of teachers is also a very important factor that affects students' performance. Studies relating to this include Cohen [21], Schacter and Thum [22], Adediwura and Tayo [23], Adu and Olatundun [24]

A review of the existing literature indicated that students' attitude toward study, students' attendance, study habits and strategic learning, students' psychological characteristics, learning style, extra-curricular activities, family background, teacher's role and many others are closely related to students' academic performance. In this research work however, student-related and teacher-related factors affecting students' academic performance will be considered.

Scope of the Study
The scope of the study is limited to Bowen University, Iwo, Nigeria.

Justification of the Study
This research work contributes to literature by finding out the factors which are responsible for students' behaviour towards study along with identifying those factors which help a student make progress in his or her studies. The use of statistical tools to analyze the factors affecting students' performance is especially important as it will help to provide valuable information to reach a better understanding on how these different factors affect students' performance as well as add more statistical data to prior study which can be used to improve the content, quality, format and teaching – learning process in order to aid student performance.

2. MATERIAL AND METHODS

2.1 Conceptual framework

The overall strategy of this study was to examine the factors (internal and external classroom factors) affecting the academic performance of students of Bowen University within the available resource. Based on this, a survey using a carefully designed questionnaire to gather rich information in a timely manner was considered the most feasible study design to address the objectives of this study.

2.2 Study Design

This study is a primary research using a questionnaire survey design capable of gathering large amount of quantitative and qualitative data in one survey.

2.2.1 Study Population

The study population comprised of all registered students of Bowen University, Iwo. The University has a total student population of about 5,000 students. However as at the time of this study, there were 3,819 registered students on which the survey was conducted. This comprises 252 students in the Faculty of Agriculture, 453 students in the Faculty of Humanities, 605 students in College of Health Sciences, 283 students in the Faculty of Law, 948 students in the Faculty of Science and Science Education and 1,278 students in the Faculty of Social and Management Sciences. The University is a diverse community comprising students from various ethnic backgrounds and age groups.

2.2.2 Sampling

The sample frame for the study was composed of all registered Bowen University students for the first semester of the 2016/2017 academic session, totaling 3,819. Simple random sampling was chosen as the preferred sampling technique. This choice was informed by the research objective which sought to investigate the factors affecting academic performance of students. As such, to have a fairly representative sample, the researcher obtained a breakdown of registered students by faculty from the University's Directorate of Information and Communication Technology (Appendix 1 attached). This gave an indication of the number of students that would be required for each student sub-group.

2.2.3 Sample Size

The minimum number of respondents required to produce a statistically significant result was calculated according to the formula by Diliman (2007). The researcher then worked out the actual sample size from the data collected.

$$n = \frac{(N_p)(p)(1-p)}{(N_p-1)\left(B/C\right)^2+(p)(1-p)} \quad (1)$$

Where:

$n =$ required sample size

$N_p =$ population size

$p =$ expected proportion

$B =$ acceptable level of sampling error

$C = Z$ statistic associated with confidence interval

In this study, the following were used:

$p = 0.5$

$B = 5\%\ (0.05)$

C (Z statistic associated with 95% confidence interval) $= 1.96$

N_p =3819 Students (Faculty of Agriculture = 252, Faculty of Humanities = 453, College of Health Sciences = 605, Faculty of Law = 283, Faculty of Science and Science Education = 948, Faculty of Social and Management Sciences = 1278)

Therefore, substituting into the equation (1) above, we have:

$$n = \frac{(3819)(0.5)(1-0.5)}{(3819-1)\left(0.05/1.96\right)^2+(0.5)(1-0.5)}$$

$n = 349.12$

$n \approx 349$ respondents

A minimum of 349 respondents were required to achieve 95% confidence level with 5% sampling error. To achieve a fair representation of students, simple random sampling was used to calculate the minimum sample size for each faculty. This was performed by dividing

the students into 6 clusters by faculties- Agriculture, Humanities, College of Health Sciences (CHS), Law, Science and Science Education (SSE) and Social and Management Sciences (SMS) and then taking a simple random sample from each cluster giving the result below

Table 1: Breakdown of student sub-group and corresponding sample size

Faculty	Population Size	% of Population	SRS (n)
Agriculture	252	6.60%	23
Humanities	453	11.86%	41
CHS	605	15.84%	55
Law	283	7.41%	26
SSE	948	24.82%	87
SMS	1278	33.46%	117
TOTAL	**3819**		**349**

2.3 Instrumentation

A carefully designed questionnaire was administered to students in the study population as required (Appendix 1). The questionnaire consisted of four parts: The first part gave a brief explanation of the purpose of the study, the importance of the students' participation and contribution to the study and also included a confidentiality statement. The second part contained questions relating to demographic information and educational background of the respondent. The third part contained twenty statements relating to the internal classroom factors. Respondents were asked to rate their response to the statements using a 5-point Likert scale (strongly agree, agree, undecided, disagree and strongly disagree). The fourth part contained questions relating to external classroom factors.

2.4 Pilot Study

A pilot study was conducted among 10 students handpicked by the researchers at Bowen University. The pilot survey provided an opportunity to note the time taken to complete the survey, test the reliability, format, accuracy and validity of the questionnaire, assess student's understanding of the questions, evaluate the effectiveness of the survey tool and identify necessary revisions. The researchers administered the questionnaire personally so as to experience firsthand any reaction from the students participating in the pilot study and to receive feedback on the questionnaire. During this study, demographic data, internal and external classroom factors were identified as independent variables while students' academic performance (measured in terms of the Cumulative Grade Point Average) was identified as the dependent variable.

2.4.1 Improvement

A number of improvements were identified as regards layout. After careful review and evaluation of the pilot study results with the necessary improvements needed, the questionnaire was determined acceptable.

2.5 Access and Recruitment

The researchers visited various faculty lecture halls and student hostels of residence and also employed the help of class representatives and departmental presidents in order to get access to and recruit the required respondents for the survey.

2.6 Data Management and Analysis

Data collected were processed, managed and analyzed using Statistical Package for the Social Sciences (SPSS) Version 20.

2.7 Statistical Techniques

The statistical techniques employed in this study are independent sample t-test, analysis of variance test and Chi-Square test for independence.

3. RESULTS

From the results of the t-test, male students were found to have an average CGPA of 3.45($\pm$0.84) while female students were found to have an average CGPA of 3.81($\pm$0.74). As such, female students were found to perform better academically on the average than male students. Results further indicate that there is a significant difference between the academic performance of male and female students. (t-test value = -4.475, df = 378, $P < .05$). Students who are involved in extracurricular activities especially their departmental association were found to have an average CGPA of 3.98($\pm$0.69) while students who are not active in their departmental association were found to have an average CGPA of 3.55($\pm$0.81). As such, students who are involved in extracurricular activities were found to perform better academically on the average than students who are not involved in extracurricular activities. Results further indicate that there is a significant difference between the academic performance of students who are involved in extracurricular activities and students who are not involved in extracurricular activities (t test value = 4.891, df = 378, $P < .05$). Students who are involved in a boyfriend/girlfriend relationship were found to have an average CGPA of 3.62($\pm$0.90) while students who are not involved in a boyfriend/girlfriend relationship were found to have an average CGPA of 3.74($\pm$0.63) however there is no significant difference between the academic performance of students who are involved in a boyfriend/girlfriend relationship and students that are involved in a boyfriend/girlfriend relationship (t-test value = -1.497, df = 378, p = .14). Students who attended public secondary schools were found to have an average CGPA of 3.52($\pm$0.96) while students attended private secondary schools were found to have an average CGPA of 3.69($\pm$0.77). Results however indicate that there is no significant difference between the academic performance of students who attended public secondary schools and students who attended private secondary schools (t-test value = -1.376, df = 378, $P = .17$).

Results from the analysis of variance (ANOVA) indicate that the use of the library significantly affects the academic performance of students ($P < .05$). The multiple comparison show that there is a significant difference between the CGPA of students who visit the library daily and students who rarely visit the library, and those who never visit the library ($P < .05$). The same was also found between students who visit the library occasionally and students who rarely visit the library, and those who never visit the library.

ANOVA results also indicate that daily study hours significantly affect the academic performance of students ($P < .05$). The multiple comparisons show that there is a significant difference between the CGPA of students who study for between 0 and 5 hours and for those who study for between 6 and 10 hours. Also, students who study for at least 6 hours daily tend to do better than those who study for less than 6 hours daily. Though not statistically significant, the mean difference of those who study for 0 to 5 hours daily and those who study for 11 to 15 hours, 16 to 20 hours and 21 hours and above shows that those who study for at least 6 hours daily perform better academically than students who study for less than 6 hours daily.

Results further indicate that the number of hours spent weekly on sports do not impact on the academic performance of students.
Results also indicate that there is a significant difference between the academic performance of students who are involved in extracurricular activities through involvement in groups and students who do not belong to any group.
Results also indicate that hours spent on social media significantly affects the academic performance of students ($P < .05$). The multiple comparison show that there is a significant difference between the CGPA of students who spend between 0 and 5 hours on social media daily and those who spend between 11 and 15 hours and those who spend 21 hours and above on social media. Results further indicate that students who spend less than 6 hours daily on social media tend to perform better than students who spend at least 6 hours on social media daily.
Results from the ANOVA also indicate that there is a slightly significant difference in the academic performance of students across the faculties of study ($P = .047$).

Chi Square results show that there is a significant relationship between social media usage and students' academic performance (Chi-Square value = 19.648, df = 3, $P < .05$); that there is no significant relationship between lecturer's approach and students' academic performance (Chi-Square value = 0.577, df = 3, $P = .90$); that there is a significant relationship between study habit and students' academic performance (Chi-Square value = 17.438, df = 3, $P < .05$); that there is a significant relationship between participation in extracurricular activities and students' academic performance (Chi-Square value = 17.759, df = 3, $P < .05$); that there is a significant relationship between relationship status and students' academic performance (Chi-Square value = 20.115, df = 3, $P <.05$).

4. DISCUSSION

Female students were found to perform significantly better academically on the average than male students. This is agreement with the findings of [4] who observed that female students did better than male students. They attributed this partly to female students being more academically responsible and thus less likely to be absent from lectures.
A significant relationship was found between participation in extracurricular activities and students' academic performance. Students who are involved in extracurricular activities were found to perform significantly better academically on the average than students who are not involved in extracurricular activities. This is in line with the findings of [7] who found that participation in extracurricular activities enhances students' academic performance and [8] who found that participation in extracurricular activities promoted greater academic achievement. However, the number of hours spent weekly on sports was found not to impact on the academic performance of students.

No significant difference was found between the academic performance of students who are involved in a boyfriend/girlfriend relationship and students that are involved in a

boyfriend/girlfriend relationship. As such, being involved in a relationship does not necessarily have an effect on the academic performance of students.

No significant difference was found between the academic performance of students who attended public secondary schools and students who attended private secondary schools. As such, the secondary school attended by students does not necessarily have an effect on their academic performance.

There was no significant relationship found between lecturer's approach and students' academic performance. This is probably due to the fact that the university has a great blend of lecturers.

A significant relationship was found between study habit and students' academic performance. The use of the library was found to significantly affect the academic performance of students. In the same vein the number of daily study hours was found to significantly affect the academic performance of students. The more hours spent studying daily, the better the academic performance of the students. This is in agreement with the fin dings of [16] who found that longer duration of time allocation in studies improved the academic performance of students.

A significant relationship was found between social media usage and students' academic performance. The number of hours spent on social media was found to significantly affect the academic performance of students. Students who spend less than 6 hours daily on social media tend to perform better than students who spend at least 6 hours on social media daily. This is in agreement with [17] who highlighted that social networking sites can be a major distraction to studying.

4. CONCLUSION

The results from the independent samples t-test revealed that there was a significant difference in the academic performance of male and female students, students who are involved in extracurricular activities and students who are not extracurricular activities; it also revealed that there was no significant difference between the academic performance of students who are involved in a boyfriend/girlfriend relationship and students that are not involved in a boyfriend/girlfriend relationship and students who attended public secondary schools and students who attended private secondary schools.

Results from the analysis of variance revealed that there was a significant difference between the academic performance of students based on library usage; there was a significant difference between the academic performance of students based on social media presence; there was a significant difference between the academic performance of students based on involvement in extracurricular activities; there was no significant difference between the academic performance of students based on the number of hours spent weekly on sports.

Results from the Chi-Square test of independence revealed that there was a significant relationship between students' academic performance and social media usage, study habit, boyfriend/girlfriend relationship status and participation in extracurricular activities. It also revealed that there was no significant relationship between lecturer's approach and students' academic performance.

Based on the findings on this research work, students should be encouraged to spend more time studying by cutting down on the number of hours spent on social media. The students should be encouraged to be more involved in extracurricular activities. Finally, the current study should be replicated using techniques like regression analysis.

REFERENCES

1. Borde SF. Predictors of student academic performance in the introductory marketing course. Journal of Education for Business. 1998; 73:302-307.
2. Meece JL, Jones MG. Gender differences in motivation and strategy use in science: Are girls rote learners? Journal of Research in Science Teaching. 1996; 33:393-406.
3. Hedges L, Newell A. Changes in the Black-White gap in achievement scores. Sociology of Education. 1999;72(2):111-135.
4. Woodfield R, Earl-Novell. An assessment of the extent to which subject variation in relation to the award of first class degree between the arts and sciences can explain the 'gender gap'. British Journal of Sociology of Education. 2006; 27(3):355-372.
5. Trueman M, Hartley J. A Comparison between Time-Management Skills and Academic Performance of Mature and Traditional-Entry University Students. Higher Education. 1996; 32:199-215. https://doi.org/10.1007/BF00138396
6. Newman-Ford, L., Lloyd, S., & Thomas, S. (2009). An investigation in the effects of gender, prior academic achievement, place of residence, age and attendance on first-year undergraduate attainment. Journal of Applied Research in Higher Education, 1, 13-28.
7. Silliker, S., & Quirk, J. (1997). The effect of extracurricular activity participation on the academic performance of male and female high students.The School Counselor, 44, 288-293.
8. Gerber, S. (1996). Extracurricular activities and academic achievement.Journal of Research and Development in Education, 30(1), 42-50.
9. Marsh, H.W. and Kleitman, S. (2002) Extracurricular School Activities: The Good, the Bad, and the Nonlinear. Harvard Educational Review, 72, 464-515. http://dx.doi.org/10.17763/haer.72.4.051388703v7v7736
10. Guest, A. and Schneider, B. (2003) Adolescents' Extracurricular Participation in Context: The Mediating Effects of Schools. Sociology of Education, 76, 89-109. http://dx.doi.org/10.2307/3090271
11. Romer, David. 1993. "Do Students Go to Class? Should They?" Journal of Economic Perspectives, 7 (3): 167-174. DOI: 10.1257/jep.7.3.167
12. Durden, G. C. and Ellis, L. V. (1995). The effect of attendance on student learning in Principles of Economics. American Economic Review, 85, 343-346.
13. Hossler, D., and Stage, F. K. 1992. "Family and high school experience influences on the postsecondary plans of ninth-grade students" American Education Research Journal, 29, 25-451.

14. Eccles, J. S., & Harold, R. D. (1993). Parent-school involvement during the early adolescent years. Teachers College Record, 94(3), 568-587.

15. Ermisch J, Francesconi M. Family Matters: Impacts of Family Background on Educational Attainments. Economica. 2001; 68(270):137-156

16. Hijazi ST, Naqvi S. Factors Affecting Students' Performance: A Case of Private Colleges. Bangladesh e-Journal of Sociology. 2006; 3:1-10.

17. Fabian H. Informing transitions in the Early Years. Open University Press, Maidenhead, Berkshire, UK. 2007.

18. Wilkinson IAG, Fung IYY. Small-group composition and peer effects. International Journal of Educational Research. 2002; 37:425–447.

19. Giuliodori MJ, Lujan HL, DiCarlo SE. Peer instruction enhanced student performance on qualitative problem-solving questions. Adv Physiol Educ. 2006; 30: 168 –17. doi:10.1152/advan.00013.2006.

20. Goethals GR. Peer effects, gender and intellectual performance among students at a highly selective college: a social comparison of abilities analysis. Williams Project on the Economics of Higher Education DP-61, Department of Economics, Williams College. 2001.

21. Cohen EG. Restructuring the classroom: Conditions for productive small groups. Review of Educational Research. 1994; 64(1):1-35

22. Schacter J, Thum YM. Paying for High and Low Quality Teaching. Economics of Education Review. 2004; 23:411-430. http://dx.doi.org/10.1016/j.econedurev.2003.08.002

23. Adediwura AA, Tayo B. Perception of Teachers' knowledge Attitude and Teaching Skills as Predictor of Academic Performance in Nigerian Schools. Educational Research and Review. 2007; 2(7): 165-171.

24. Adu EO, Olatundun SO. Teachers' Perception of Teaching as Correlates of Students' Academic Performance in Oyo State Nigeria. Essays in Education. 2007; 20: 57-63.

APPENDIX

QUESTIONNAIRE

Dear Respondent,

We are carrying out a research project on "FACTORS AFFECTING THE ACADEMIC PERFOMANCE OF STUDENTS OF BOWEN UNIVERSITY".

Your participation in this research is needful but voluntary. Your responses are held in the strictest confidence. Thank you for your time.

SECTION A: Personal Information

1. Sex: Male ☐ Female ☐

2. Age: Below 16 ☐ 16 – 20 ☐ 21 – 25 ☐ Above 25 ☐

3. Level: 100L ☐ 200L ☐ 300L ☐ 400 – 500L ☐
   Spillover ☐

4. Department: ……

5. Current CGPA: ……

6. Which secondary school did you attend? Public ☐ Private ☐

SECTION B

The questions in this section relate to the internal classroom factors affecting student's performance. Indicate how much you agree or disagree with the following statements by putting a tick in the appropriate box.

KEYS: SA: Strongly Agree**; A:** Agree**; NS:** Not Sure **D:** Disagree**; SD:** Strongly Disagree

S/N	STATEMENTS	SA	A	NS	D	SD
7	I feel sleepy in class					
8	I feel hungry in class					
9	I find it difficult to see in class					
10	I find it difficult to hear in class					
11	I study only when there is a test					
12	I study only when I like					
13	I come late for lectures					
14	I am sometimes absent from lectures					
S/N	**STATEMENTS**	**SA**	**A**	**NS**	**D**	**SD**
15	I copy the assignment(s) of friends					
16	My lecturers discuss many topics in a short period					
17	My lecturers use lecture method only					
18	My lecturers are sometimes absent from class					
19	My lecturers are sometimes late to class					
20	My lecturers can be strict with marks					

SECTION C

The questions in this section relate to external classroom factors affecting student's performance. Kindly tick as appropriate.

21. How often do you visit the library?
    Daily ☐ Occasionally ☐ Rarely ☐ Never ☐

22. Do you borrow books from the library?
    Yes ☐ No ☐

23. How much time do you spend studying in a day?
    0 – 5hrs ☐ 6 – 10hrs ☐ 11 – 15hrs ☐ 16 – 20hrs ☐ 21hrs&above ☐

24. How much time do you spend on sports in a week?
0 – 5hrs ☐ 6 – 10hrs ☐ 11 – 15hrs ☐ 16 – 20hrs ☐ 21hrs&above ☐

25. How active are you on social media?
Very active ☐ Active ☐ Averagely Active ☐ Not Active ☐

26. Which of the following social media platforms are you registered on?
Please tick all that apply.
Facebook ☐ Instagram ☐ Snapchat ☐ Whatsapp ☐
Twitter ☐ Imo ☐ Skype ☐ Others, Please State: ……

27. How many hours do you spend on social media in a day?
0 – 5hrs ☐ 6 – 10hrs ☐ 11 – 15hrs ☐ 16 – 20hrs ☐ 21hrs&above ☐

28. Are you in a relationship? Yes ☐ No ☐ If No go to Question29
If Yes: Within Campus ☐ Outside Campus ☐

29. How Much time do you invest in your relationship daily?
0 – 5hrs ☐ 6 – 10hrs ☐ 11 – 15hrs ☐ 16 – 20hrs ☐ 21hrs&above ☐

30. How many BBSF units and/or other groups do you belong to?
None ☐ One ☐ Two ☐ Three ☐ Four and above ☐

31. Are you an active member of your departmental association?
Yes ☐ No ☐