

Original Research Article

Exploring Undergraduate Students' Views on Factors Influencing Academic Performance in Construction Related Disciplines in Bells University of Technology, Ota, Nigeria

ABSTRACT

Aims: University is one of the places where a systematically organized and scientifically oriented education is offered. It is through such an organized manner that the knowledge, skill and desired attitude of the learner develop. But in a given class it is sometimes seen that there is a difference in achievement as a result of different factors that affect the academic performance of students at universities. This study therefore, aims to explore and investigate problem factors influencing the academic performance of undergraduate students in construction related disciplines in Bells University of Technology Ota with a view to providing understanding on the major problem factors influencing their academic performance.

Study design: A survey research design was employed.

Place and Duration of Study: Department of Building Technology, Bells University of Technology Ota, Ogun State, Nigeria, between May 2019 and January 2020.

Methodology: The research employed a survey method with questionnaires distributed to undergraduate students in construction related disciplines in Bells University of Technology Ota, using a convenient sampling method. Data were analyzed using frequency, percentage, mean, rank and Kendall's coefficient of concordance test.

Results: Out of 172 questionnaires distributed, 105 were adequately filled and returned, representing 61% of response rate. The results show that maturity, study strategies, interest in course, fear and stress and training and teaching style are the top five factors influencing academic performance of undergraduate students in construction related disciplines in Bells University of Technology Ota, Nigeria. Secondly, using SPSS (23), Kendall's (W^a) value was found to be 0.036 at 0.000 significance level, therefore the study concluded that, there is statistically significant degree of agreement between different departments of the participants concerning their responses to factors that influence academic performance in construction related disciplines in Bells University of Technology, Ota, Nigeria.

Conclusion: The study recommends that jumping of classes by students during early education should be discouraged so as to allow students attain maturity level for higher education. Secondly, universities should organize fear and stress management seminars and workshops for undergraduate students in addition to guidance and counseling sessions with a view to addressing psychological issues that may hinder their academic performance.

Keywords: Academic performance; Bells University of Technology, construction related disciplines, Nigeria, undergraduate students.

1. INTRODUCTION

Education is the first step for every human activity in this age of computer. Education plays an important role in the development of human capital, associated with an individual's well-being, helped in personality building and opportunities for better living [1]. According to [2], students are the main source of any educational set up. [3] Noted that students are the key asset for any educational institute, universities and educational institutions have no value without student.

University is one of the places where a systematically organized and scientifically oriented education is offered. It is through such an organized manner that the knowledge, skill and desired attitude of the learner develop, but in a given class it is sometimes seen that there is a difference in achievement as a result of different factors that affect the academic performance of students [1]. Bells University of Technology Ota, was established in 2005. The University was the first private university of technology in Nigeria, located at Ota, Ogun State southern part of Nigeria. University is expected to produce very high quality graduates that will become the workforce of the nation in the future [4].

Construction related disciplines are programmes or courses taught in the higher institutions that are related to construction profession which includes but not limited to Architecture, Building Technology, Quantity Surveying, Estate Management, Urban and Regional Planning, Surveying, Civil Engineering, Mechanical Engineering, etc. According to [5], the aim of every undergraduate student in achieving academic excellence begins in the preparation for examination, at times, higher institutions that have good and competent lecturers often serve better opportunities in attaining this academic excellence. Undergraduate students in construction related disciplines in Bells University of Technology Ota, are the main target of this research. Therefore, for an undergraduate student in construction related disciplines in Bells University of Technology Ota, who wants to have academic excellence should be knowledgeable about the factors that influences academic performance and make adequate provisions for its management. According to [6], the academic performance of students is an area of greatest concern which plays an important role in becoming more competent, intelligent and intellectual professionals, and even when these professionals move higher in their life, their academic performance still remains a criterion for deciding and measuring their professional expertise.

Generally, academic performance is commonly defined in terms of examination performance. The social and economic development of a country is directly connected with student academic performance [5]. Academic performance in this study was characterized by performance in course work, tests, and examinations of undergraduate students. Graduation rates and student's academic performance have been the area of interest for universities and other higher institutions, thus investigation of factors related to the academic performance of university students become a topic of growing interest in higher educational circle [7]. "Academic achievement of student is the ability of the student to study and remember facts and being able to communicate his knowledge orally or in written form even in an examination condition" [8]. Academic performance means three things: first, the ability to study and remember facts; that is being able to study effectively and see how facts fit together and form larger pattern of knowledge; second, being able to think for yourself in relation to facts; and third, being able to communicate your knowledge verbally or down on paper [5].

According to [9], universities need to be reasonably confident that students enrolled for programmes will be capable of completing the programme in which they enroll, and chances are high that pass rates would significantly improve if higher institutions admitted only

students who have the potential to succeed. Academic performance at graduation level predicts the future performance of the students for higher education [6]. Various means of measuring students' academic performance exist and they include: Continuous Assessment (CA) and Examination, Grade Point Average (GPA), Graduation and retention rate etc. [10]. Examination is an organized activity that aimed at determining the cumulative or broad knowledge in a students' educational development [10]. [10] further explained that, examinations have been widely used to evaluate student's performance and to establish the integrity of the degree or certificate awarded by any higher institution. GPA is a commonly used indicator of academic performance and for administrators to evaluate progression in an academic environment [5]. Most universities offering construction related disciplines set a minimum GPA that should be attained in order to continue in higher degree. According to [11], the measurement of students' previous GPA are the most important indicators of students' future attainment, this means that the higher the previous GPA, the better will the student's academic performance in future endeavours be.

According to [11], the students' performance plays an important role in producing best quality graduates who will become great leaders and manpower for the country thus responsible for the country's economic and social development. A high GPA while in construction related disciplines may not be the only factor associated with subsequent career success. Qualities such as social skills, empathy, communication skills, leadership, conflict management, cooperation, team capabilities, and collaboration are also important in the construction related disciplines, students who possess these skills are able to work effectively with other industries and manage construction efficiently [5]. "Academic achievement is one of the major factors considered by employers in hiring workers especially for the 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 career at the same time to fulfill the employer's demand" [11].

There are many factors that can influence undergraduate students from attaining and maintaining a high GPA that reflects their overall academic performance during their stay in university which results to poor academic performance. Poor academic performance or high failure rates may result in unacceptable levels of attrition, reduced graduate and increased cost of education, this also reduces admission opportunities for tertiary students seeking higher degrees [12]. Hence, students' academic performance cannot be over emphasized and has been a topic of interest for instructors.

For Nigeria to excel in construction industry there is need for the popularization of the construction related disciplines among undergraduate students. Their interest and performance in this admiration have to be elevated. The professional bodies, parents and government have tried to do this. However, past records in the construction related disciplines in Bells University of Technology have shown that many undergraduate students academic performance is not encouraging. [2] Reported that students' academic performance is not good, and there are many factors responsible for that. Bells University of Technology Ota, is not an exception in this regard. The study of [2] revealed that factors such as teacher related factor, school related factor, and home related factor affects the academic performance of students. There is still the need of thorough research on factors influencing the academic performance in making sure that the universities produce the best human capital [4]. It is for this reasons that this study aims at exploring and investigating problem factors influencing the academic performance of undergraduate students in construction related disciplines in Bells University of Technology Ota with a view to providing understanding on the major problem factors influencing their academic performance

This research is very important because it explores the factors that influence academic performance of undergraduate students, thereby increasing the probability of adding to the existing knowledge of factors that influences academic performance of students. It is necessary to identify the factors which cause poor academic performance of undergraduate students in construction related disciplines. If these factors are not known to the undergraduate students, the problem of poor academic performance may continue. In addition, the findings of the study will be of significance to the following:

1. Providing the basis for developing appropriate management of time and ways by which construction related disciplines can be followed and handled by the undergraduate students.
2. Enabling an undergraduate student to understand the factors that affect academic performance.
3. An undergraduate student who wants to attain excellent academic performance in construction related disciplines.
4. Instructors who are interested in new discoveries for teaching.
5. The findings will also reveal the impact of graduates in construction related disciplines in the Nigerian construction industry. This will determine whether the University's aims and objectives of these construction related courses are being achieved.

2. METHODOLOGY

A survey research design was adopted in this study to achieve the aforementioned objective. Specifically, a cross-sectional research design was used where samples were drawn from the population of the study. Both the primary and secondary data were used in the study. A validated structured questionnaire was used to collect primary data from undergraduate students in construction related disciplines. A literature review was carried out to identify and produce a comprehensive list of factors that affect students' academic performance. The problem factors were grouped into four (4) major groups based on how they affect academic performance (student related factors, home related factors, lecturer related factors and school related factors). These groups were used to draw up a questionnaire to elicit the opinion of the participants on the factors influencing academic performance of undergraduate students in construction related disciplines in Bells University of Technology, Ota, Ogun state Nigeria. The study was conducted in Bells University of Technology, Ota, Ogun state, Nigeria. Undergraduate students present in 2018/2019 academic second semester in construction related disciplines were the participants of the study. This study limited the construction related disciplines to be programmes under college of environmental sciences, which includes the following six departments: Architecture, Building Technology, Quantity Surveying, Estate Management, Urban and Regional Planning and Surveying and Geoinformatics. Likert scale was employed to assess the strength of the responses to the factors affecting academic performance, with the following scales: strongly disagree = 1, disagree = 2, neutral = 3, agree = 4 and strongly agree = 5. In this study, samples were selected from the six departments in college of environmental sciences in Bells University of Technology. The sample size for the research is computed using equation (1).

$$n = \frac{N}{1 + Ne^2} \quad \text{equation (1)}$$

Where n = Sample size; N = Total population of the survey participants; e = Probability of error, where the level of error was $\pm 10\%$. Table 1 shows the population and sample size of the study from each group of respondents.

Table 1. Sample size of students in each department

Department	Population	Sample size
Architecture	216	68
Building Technology	17	14
Quantity Surveying	22	18
Estate Management	31	24
Surveying and Geoinformatics	57	36
Urban and Regional Planning	14	12
Total	357	172

A non-probabilistic convenience sampling procedure was utilized. The choice for this sampling procedure is as a result of knowing that the population of the study was finite. Out of 172 questionnaires distributed, 105 were adequately filled and returned, representing 61% of response rate.

2.1 Method of Data Analysis

The data for this research were analysed using frequency, percentage, mean, rank and Kendall's coefficient of concordance test. These tools made it possible for the researcher to make proper analysis of the data which were collected during the course of carrying out the study. Statistical Package for the Social Sciences (SPSS) version 23 was used.

3. RESULTS AND DATA ANALYSIS

In this section, the study presents the results and analysis of problem factors that affect academic performance of undergraduate students in construction related disciplines in Bells University of Technology. The background information of the participants is also presented.

3.1 Participant's Background Information

Most of the participants were male represents about 64% of the research participants as shown in Table 2. The result in Table 2 shows that most of the respondents fall into the age bracket of 14 to 20 years (60%). Age bracket of 21 to 25 years represent 37.14% of the participants, whereas the remaining 2.86% of the respondents fall into 26 to 30 years. This shows that, most of the participants are young. And at this age, it is very important to inform the students about factors that are likely to affect their academic performance so as to avoid or manage them effectively. Table 2 also revealed that most the survey participants are from the department of architecture (46 students) represents 43.8% of the survey participants. Department of Urban and Regional Planning recorded the least participants with (5 students) 4.8%. It was also revealed in Table 2 that most of the undergraduates students sampled are from 200-Level with 36% while the 500-Level students were the least represented with 8%. Most of the participants have the intention to continue to higher degree level represents 83% of the survey participants.

Table 2. Respondents' Background information

Respondents' Background Information	Frequency	%
Sex		
Male	67	63.8
Female	38	36.2
Total	105	100
Age Bracket		
14 – 20 years	63	60.00
21 – 25 years	39	37.14
26 – 30 years	3	2.86
31 – 35 years	-	-
36 years and above	-	-
Total	105	100
Department of Respondents		
Architecture	46	43.81
Building Technology	13	12.38
Quantity Surveying	9	8.57
Estate Management	17	16.19
Surveying and Geoinformatics	15	14.29
Urban and Regional Planning	5	4.76
Total	105	100
Class Level of Respondents		
100 Level	21	20
200 Level	38	36
300 Level	26	25
400 Level	12	11
500 Level	8	8

Total	105	100
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Intention to continue to higher degree

level

Yes	87	83
No	18	17
Total	105	100

3.2 Factors Influencing Academic Performance

This subsection examines the undergraduate students' perception of the factors influencing academic performance of construction related disciplines in Bells University of Technology. The problem factors identified from literature and confirmed by undergraduate students in construction related disciplines in Bells University of Technology in Nigeria were ranked according to their mean scores.

Major problem factors identified by the survey participants have been revealed and shown in Table 3 and figure 1. Results from the empirical analysis revealed that the five main factors influencing academic performance of undergraduate students in construction related disciplines in Bells University of Technology in Nigeria are maturity (mean = 3.96), study strategies (mean = 3.95), interest in course (mean = 3.66), fear and stress (mean = 3.62), and training and teaching style (mean = 3.57). However, classroom size (mean = 2.72), academic competence (mean = 2.84) and anxiety (mean = 2.87) among others are the least in ranking with respect to the factors influencing academic performance of undergraduate students in construction related disciplines in Bells University of Technology Nigeria representing the 28th, 27th and 26th in ranking respectively as shown in Table 3.

Table 3. Factors influencing academic performance of undergraduate students

Problem Factors	ARC		BDT		QTS		EST		SGF		URP		Average	
	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank
Student Related Factors														
Anxiety	3.00	24	3.31	20	2.44	27	3.41	20	2.53	28	2.50	23	2.87	26
Academic competence	3.02	23	2.92	26	2.33	28	3.24	24	2.80	26	2.73	19	2.84	27
Time management	3.20	21	4.31	2	2.56	25	3.23	25	3.07	23	3.00	12	3.23	16
Study strategies	3.83	2	4.46	1	4.11	1	3.71	6	3.60	5	4.00	2	3.95	2
Project research deficiencies	3.43	12	3.03	25	2.89	17	3.47	18	3.33	13	3.20	10	3.23	16

Fear and stress	3.78	3	3.23	23	3.44	8	3.76	3	3.73	3	3.80	3	3.62	4
Peer group	3.50	8	3.59	12	2.88	18	3.88	1	3.27	17	2.20	25	3.22	20
Health and well being	3.49	9	3.65	8	2.78	22	3.60	13	3.13	22	2.75	18	3.23	16
Interest in a course	3.70	5	3.92	4	3.56	5	3.59	14	3.60	5	3.60	4	3.66	3
Procrastination	3.46	11	3.54	13	3.39	10	3.30	23	3.53	7	2.10	27	3.22	20
Maturity	3.87	1	3.62	9	4.11	1	3.76	3	4.20	1	4.20	1	3.96	1
Home Related Factors														
Family background	3.33	15	3.31	20	3.33	13	3.53	16	3.52	8	2.94	14	3.33	12
Religion	3.37	14	3.61	10	3.41	9	3.59	14	3.51	9	3.34	8	3.47	7
Home problems e.g. break ups of parent	3.17	26	3.85	5	2.86	19	3.68	8	3.20	19	2.70	20	3.24	15
Personal or family crisis	3.27	18	3.67	7	3.00	16	3.63	12	3.24	18	2.55	22	3.23	16
Financial problem	3.20	21	3.60	11	2.53	26	3.66	9	3.13	21	1.80	28	2.99	25
Pampering	3.00	24	3.69	6	2.83	20	3.33	22	3.06	24	2.40	24	3.05	24
Lecturer Related Factors														
Training and teaching style	3.42	13	3.53	14	3.89	3	3.20	26	3.80	2	3.60	5	3.57	5
Heavy course workload	3.52	7	3.37	19	3.35	11	3.69	7	3.49	10	3.24	9	3.46	8
Mastery of the subject matter	3.32	16	3.46	16	3.22	14	3.64	11	3.32	14	2.92	15	3.44	9
Discussion of topics in a short	3.26	19	3.38	18	3.21	15	3.47	18	3.17	20	2.65	21	3.19	22

period of time														
Frequently														
out/absent from	3.22	20	3.08	24	3.78	4	3.18	27	3.30	15	3.38	7	3.32	13
class														
School Related														
Factors														
Infrastructure/en														
vironment for	3.30	17	3.51	15	3.51	7	3.35	21	3.40	12	3.40	6	3.41	10
learning														
Classroom size	2.80	27	2.82	28	2.75	23	3.15	28	2.70	27	2.12	26	2.72	28
Environmental														
condition (peace														
in the locality	2.78	28	2.85	27	3.33	12	3.49	17	3.47	11	2.85	16	3.13	23
crisis e.tc)														
Classrooms														
locations	3.65	6	3.24	22	2.67	24	3.65	10	3.29	16	3.18	11	3.28	14
Availability of														
library	3.48	10	4.31	2	2.80	21	3.82	2	3.03	25	2.80	17	3.37	11
references and														
text books														
School time														
schedule and	3.76	4	3.46	16	3.54	6	3.74	5	3.73	3	2.97	13	3.53	6
programmes														

ARC = Architecture students; BDT = Building Technology students; QTS = Quantity Surveying students; EST = Estate Management students; SGF = Surveying and Geoinformatics students; URP = Urban and Regional Planning students.

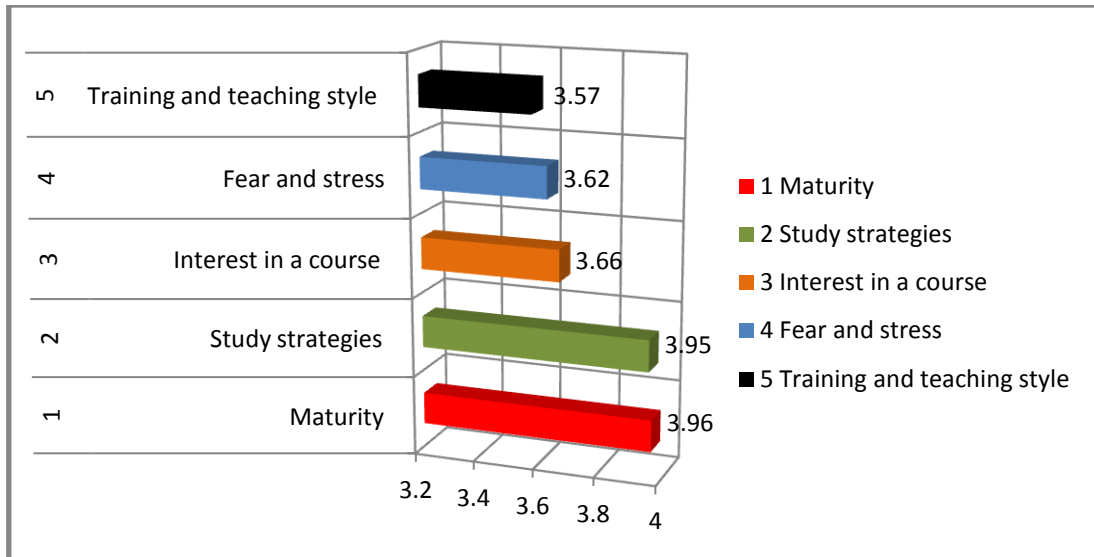


Figure 1. Top five ranked problem factors influencing academic performance of undergraduate students in construction related disciplines in Bells University of Technology, Nigeria.

3.3 Test of Hypothesis

A non-parametric statistics test of Kendall's Coefficient of Concordance was conducted to establish the degree of agreement or disagreement in response of the survey participants concerning the problem factors that influence academic performance of undergraduate students in construction related disciplines in Bells University of Technology, Nigeria. Statistical Package of Social Sciences (SPSS-23) was used to run the test; result obtained was significant as shown in Table 4.

Table 4. Test Statistics for Kendall's Coefficient of Concordance

Number (N)	105
Kendall's (W^a)	0.036
Chi-Square	100.750
Degrees of Freedom (df)	27
Significance Level (Asymp. Sig.)	0.000

The null hypothesis (H_0) was rejected. Thus, the study concludes that, there is statistically significant degree of agreement between different departments of the participants concerning their responses.

4. DISCUSSION OF FINDINGS

An examination of Table 3 shows that the problem factors of academic performance were grouped into four, namely; student related factors, home related factors, lecturer related factors and school related factors. Secondly, the Table 3 shows that the top five factors influencing academic performance of undergraduate students in construction related disciplines in Bells University of Technology are: (i) maturity, (ii) study strategies, (iii) interest in course, (iv) fear and stress and (v) training and teaching style. To build on the findings and to utilise the literature effectively, the top five factors influencing academic performance of undergraduate students in construction related disciplines will be discussed individually rather than the four above-mentioned groups.

4.1 Maturity

The problem factor “maturity”, was ranked first overall by the survey participants (mean = 3.96). This shows that, maturity is a key factor that influences the academic performance of undergraduate students’ in construction related disciplines in Bells University of Technology, Ota, Nigeria. A close examination of Table 2 shows that most of the survey participants were young with age bracket between 14 to 20 years. It is likely that most of the undergraduate students that participated in this survey jump classes during their primary and secondary schools. The findings of [13] is in support that students’ age have an important effect on the student’s academic performance. Hence students should be allowed to pass through all the necessary level classes during primary and secondary schools so as to be equipped for higher education.

4.2 Study Strategies

The problem factor “study strategies”, was ranked second overall by the survey participants (mean = 3.95). This shows that, study strategies is a factor that influences the academic performance of undergraduate students’ in construction related disciplines in Bells University of Technology, Ota, Nigeria. To help improve students’ academic performance, lecturers in the Universities should encourage and advise undergraduate students on how to study on their own and in group. This will certainly improve their academic performance. This finding is in support of the following researchers; [14, 15, 16, 17, 18], that study strategies influences the academic performance of students.

4.3 Interest in Course

The problem factor “interest in course”, was ranked third overall by the survey participants (mean = 3.66). This shows that, interest in course is a factor that influences the academic performance of undergraduate students’ in construction related disciplines in Bells University of Technology, Ota, Nigeria. It is important for parents and guidance to know the core area of interest of study of their beloved once rather than forcing them to do a course they do not have interest on. In other words, students’ academic performances are improved when they have interest in courses they are studying. According to [8], development of students’ interest in learning and attitude to school could contribute in improving their academic performance.

4.4 Fear and Stress

The problem factor “fear and stress”, was ranked fourth overall by the survey participants (mean = 3.62). This shows that, fear and stress is a factor that influences the academic performance of undergraduate students’ in construction related disciplines in Bells University of Technology, Ota, Nigeria. The study of [19] found that academic stress is higher in younger students than older students. And it was revealed in this present study that most of the respondents are young. Therefore, it is important that the University put in place fear and stress management seminar and workshop for students. According to [20], too much stress can expose students to psychological problems such as depression and anxiety resulting in a decreased performance in the academic activities and can affect both the mental and physical health of students. [21] Noted that, effect of stress on students is negative. Several studies have divulged that stress influence academic performance of students [19, 21, 22, 23, 24, 25].

4.5 Training and Teaching Style

The problem factor “training and teaching style”, was ranked fifth overall by the survey participants (mean = 3.57). This shows that, training and teaching style is a factor that influences the academic performance of undergraduate students’ in construction related disciplines in Bells University of Technology, Ota, Nigeria. It is important that lecturers in construction related disciplines in Bells University of Technology Ota review their training and teaching style in a way student would understand the lectures very well. The study of [26] found that visual and sequential learning has an important impact on academic performance. The study of [25] revealed that teaching style plays a significant role on the students’ academic performance at College of Business, University Utara Malaysia. The study of [27] shows that lack of teaching resources and poor standards of teaching affects academic performance of students. The studies of [7, 15, 28, 29] also supported that training and teaching style influences academic performance of students.

5. CONCLUSION AND RECOMMENDATION

There are several factors that influence academic performance of students. This study focused on problem factors which were grouped into student related factors, home related factors, lecturer related factors and school related factors that influence the undergraduate student’s academic performance. In other to improve the academic performance of students, better understanding of factors influencing academic performance is of great important. This study set out to explore and investigate problem factors influencing the academic performance of undergraduate students in construction related disciplines in Bells University of Technology Ota with a view to providing understanding on the major problem factors influencing their academic performance. Based on the findings and discussion, it can be concluded that this investigation has indeed divulged data-based evidence that student related factors such as maturity, study strategies, interest in course, fear and stress and lecturer related factor such as training and teaching style to be top five factors influencing academic performance of undergraduate students in construction related disciplines in Bells University of Technology Ota, Nigeria. Secondly, data obtained in this study revealed that, there is statistically significant degree of agreement between different departments of the participants concerning their responses to factors that influence academic performance in construction related disciplines in Bells University of Technology, Ota, Nigeria.

Based on the findings from this study, the following recommendations were made: (i) jumping of classes by students during early education should be discouraged so as to allow students attain maturity level for higher education (ii) students should be allowed to study courses where they have interest on and not to be forced to a particular course in university (iii) universities should organize fear and stress management seminars and workshops for undergraduate students in addition to guidance and counseling sessions with a view to addressing psychological issues that may hinder their academic performance (iv) lecturers should ensure that they adopt a friendly teaching style so as to boost students interest in their desired field of study in the university and topics thought by lecturers should be taught extensively with adequacy in order to facilitate proper understanding among undergraduate students.

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