FACTORS AFFECTING STUDENT SATISFACTION OF HIGHER EDUCATION STUDENTS' IN NIGERIA: CASE OF FEDERAL POLYTECHNIC BAUCHI

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ABSTRACT

In order to get the best hand for the construction industry, construction professional such as the Quantity Surveyor need training as it is the case in any human field of endeavour. Polytechnics are crucial in providing students with an education that will equip them with adequate skill, competencies attitude and necessary values for further career development in the highly competitive global market of today. A wide-ranging literature review and questionnaire survey was conducted to gain in-depth understanding of student satisfaction. The questionnaire was distributed to 155 students of quantity surveying department, Federal Polytechnic Bauchi. Using SPSS version 23, the questionnaire was subjected to reliability test. Statistical analysis was used using average index; Pearson correlation coefficient and multiple regression were used to analysis data from survey questionnaire. The study reveal that the five most influencing factors of student satisfaction were: lecturer preparedness, lecturer expertise, study material, lecturer academic experience and lecturer interpersonal and communication skill. The study established that overall student satisfaction is impacted by influencing factors by a R2 of 0.279, meaning that student satisfaction influencing factors accounts for 27.9% of the variation in student satisfaction. The study concluded that the most important factors that influence student satisfaction in the Quantity Surveying Programme at Federal Polytechnic Bauchi are those related to the lecturer and the institution, they contribute 28% to student satisfaction in the Quantity Surveying Programme at Federal Polytechnic Bauchi ; external influences and program factors have a negative relationship with student satisfaction in the Quantity Surveying Programme at Federal Polytechnic Bauchi; lecturer and institution factors. The study recommended that order to improve learning, lecturers should look for local issues that students can connect to and solve; case studies and real-world examples are useful tools for delivering modules, The Federal Polytechnic Bauchi should establish a welcoming and favorable learning environment,

improve classroom equipment with cutting-edge technology, and lecturer should employ creative teaching strategies.

BACKGROUND

The importance of open space as one significant value must be prioritized in urban planning, which lies particularly in its arrangement. For an ideal ratio, the open space of an urban area must cover one-third of its total area. Where seven percent of it must be designated as city parks or local parks. These parks are open public spaces that completely provide a place for all interactions and activities from community members thus safety and comfort factors need to be applied. This open facility served as an open public space for all community interaction activities regardless of social status or hierarchy of differences between social, educational, or economic levels among them. To achieve security and comfort expectations, one main factor is to create an ergonomic design for public open space.

In the center of Malang, there are many open spaces underutilized by the community which assumed that these spaces have safety and comfort issues because of poor planning and are not well designed according to anthropometric theory.

The construction sector plays a significant role in driving economic growth and development in both developed and developing nations. According to Ezeokoli et al (2021), Nigeria's construction industry has accomplished much, both in terms of GDP and labour supply, as well as the positive ripple effects that arise from establishing a building site. Given the rapid changes in construction project complexities, there will likely be a high demand for construction professionals (QSs). For construction projects, quantity surveyors are in charge of providing contractual and financial management during the pre-construction, construction, and post-construction stages (Yap et. al., 2022). In order to get the best hand for the construction industry, construction professional such as the Quantity Surveyor need training as it is the case in any human field of endeavour. Polytechnics are crucial in providing students with an education that will equip them with adequate skill, competencies attitude and necessary values for further career development in the highly competitive global market of today (Olmos-Gomez et al., 2020). Furthermore, the polytechnic is essential to provide satisfactory learning experience.

 Therefore, gathering sufficient input from student evaluations can be seen of as one of the most effective management methods for understanding the students' perspective on their academic program. Since the evaluations of the students represent their learning experience and expectations being met, the feedback received can be utilized to modify the curriculum as needed. The aim of this study is

i. To identify and determine the most significant factors influencing student learning experience in the Quantity Surveying Programme, Federal Polytechnic Bauchi

ii. To determine how influencing factors are correlated to student experiences

LITERATURE REVIEW

Nigeria is not an exception to the global trend of the education sector's recent rapid expansion; in addition to the higher education sector's explosive expansion is, intense rivalry. Since this factor may influence enrolment decisions, the only institutions that will thrive in this cutthroat market are those who provide their students with a high-quality education in a nurturing atmosphere.

Factor influencing student learning experience

Numerous investigations have been carried out to look at the factors that could affect students' satisfaction and retention. Though, "student experiences" is arbitrary since it includes a lot of variables that affect how satisfied students are with the educational program they are receiving overall (Yusoff., et. al, 2015). Student experiences are defined as how satisfied students are with the programs and services that higher education institutions provide. Accordingly, satisfaction refers to a feeling of mental well-being experienced when an individual's anticipated result meets their expectations.

In their study, Deshields et al. (2005) found that academic achievement, classroom performance, learning facilities, and institution reputation are among the elements that affect students' experiences learning. Butt and Rehman (2010) determined that the elements most impacting higher education in Pakistan were course content, peer relationships, self-evaluation, teacher expertise, classroom facilities, and the learning environment. When Alam Malik et al. (2012) investigated how students perceived and expected to be treated at a business school, they found that the most important factor influencing overall student satisfaction was the academic facilities. According to Al-Sheeb, et al., (2018), student satisfaction is divided into two parts. In the first, assessments of teaching and learning are discussed, and in the second, extensive student experiences in higher education are highlighted. In order to demonstrate the necessity of student-centred initiatives for raising the calibre of higher education for students, Tan, et. al., (2016) carried out a meta-analysis of literature pertaining to the quality of student experiences in higher education. Given that the satisfaction obtained by students in higher education mainly depends on their supposed performance of the quality of the services provided in tertiary institution, and such satisfaction changes frequently due to the learning environment in school life (Shahsavar & Sudzina, 2017).

Pescara (2017) carried out an examination of the variables influencing Romanian university students' contentment with their academic surroundings. According to his research, the main factors influencing student satisfaction include course content, program flexibility, counselling services, family dynamics with inadequate support, clear and concise lectures, interpersonal and communication skills, responsiveness, classroom environment/facilities, and library services. However, Pedro, et. al (2018) contend that when students' expectations are met or beyond, their experiences speak volumes about how satisfied they are with the educational program and services they received. When the quality of the service

exceeds expectations, students usually feel satisfied. In contrast, students tend to have negative feelings when there is a disparity between these expectations and their real experience

In three Yemeni universities that provide education to students unable to attend classes full-time, Ghazal et al. (2018) conducted study. The study found that factors that enhance student satisfaction and experiences include living circumstances, the availability of activities and workshops, lecturer preparedness, and the quality of the study materials (Handout).

In the study by Greek researchers Tsinidou et al. (2010), the factors influencing higher education quality were assessed, and the elements that affect quality in higher education and measured their relative relevance from the perspective of students; Ancillary services and financial considerations were noted. In appraising the influence of facilities performance, Abdullahi and Wan Yusoff (2019), while evaluating the impact of facilities performance, found that student satisfaction can be perceived as a reflected contemplation of life experience; it refers to the individual assessment of their educational experiences

RESEARCH METHODOLOGY

An extensive literature review was done, a number of factors influencing students' satisfaction and learning experiences were extracted. In order to capture and explain objective reality using statistical studies, a quantitative method is employed (Hair, et al., 2019). A structured questionnaire of twenty-two (22) factors organised on a 5-point Likert scale is used as the data collecting tool since it is affordable and useful for large samples based on the literature review. (Hair, et al., 2019). Each student was asked to rate each factor based on their satisfaction and learning experiences. The survey questionnaire contains two sections. The first solicits information on demographic and the second part want to elicit information on perceived importance of influencing factors. A total of 155 students were approached, out of whom 143 responded by completing the questionnaire, giving a respond rate of 92%. Statistical Package for the Social Sciences (SPSS 23) was used for analysis both descriptive and inferential statistical. Analyses were aimed at establishing the importance of influencing factors of students' satisfactions. Two statistical tools were used, the average index (AI) and multiple regression analysis. The formula used for average index is

$$MRS = \frac{(Fx_1 + Fx_2 + Fx_3 + Fx_4 + Fx_5)}{N}$$

----------------------Equation 1

Where: X_1 = number of respondent for not significant

X_2 = number of respondent for slightly significant

X_3 = number of respondent for moderately significant

X_4 = number of respondent for very significant

X_5 = number of respondent for extremely significant

F = the weight given to each factor by respondent from 1 - 5

N = number of respondents.

For the purpose of interpretation, a lower mean score value denotes a lesser level of relevance.

Multiple linear regression

One statistical method for figuring out the relationship between variables is regression analysis. Regressions become multiple when they attempt to model the link between two or more explanatory factors and a response variable. For every value of the independent variable (X), there exists a value of the dependent variable (Y). This study used hierarchical multiple linear regression with four predictors (independent variables). In a multiple linear regression model, each variable is separated from the others and given a coefficient expressing how that variable is related to the dependent variable. The generic multiple linear regression model for this study is:

$$Y_i = b_0 + b_1(X_{i1}) + b_2(X_{i2}) + b_3(X_{i3}) + b_4(X_{i4}) + \epsilon_i \text{ --------------------------------Equation 2}$$

Where:

Y_i = the outcome variable

b_0 = the intercept(constant)

b_1, b_2, b_3, b_4 = inputs of each predictor to the model

X_{i1} = programme related factor

X_{i2} = external influence

X_{i3} = lecturer related factor

X_{i4} = institution related factor

ϵ_I = the difference between the predicted and the observed value Y

RESULT

For the 22 influencing factors that were evaluated, the Cronbach's coefficient alpha is 0.801, which is higher than the 0.7 required for internal consistency reliability (Hair, et al., 2019). The ranking, mean scores, and standard deviation of the importance ratings for each characteristic in relation to the attribute category are shown in Table 1. The five most important criteria are the lecturer's preparedness (4.448), expertise (4.420), study material (4.364), academic experience (4.357), and interpersonal and communication skill (4.322). Surprisingly, the lecturer is linked to all four of the top influencing factors.

Table 1: Ranking of Influencing Factors

Ref	Influencing Factors	Mean	Standard Deviation	Rank
A	**Programme Related Factor**			
A1	Course content	4.1678	1.00692	8
A2	Study material (Handouts)	4.3636	.99679	3
A3	Course Flexibility	3.7203	1.01680	19
A4	Advisory/Counseling services	3.7413	.94730	18
A5	Workshop availability and Activities	3.7552	.95103	17
B	**External Influences**			
B1	Living arrangement	3.8322	.98571	12
B2	Family encouragement	3.7762	.97446	15
B3	Peer relationships	3.8182	.98321	13
B4	Financial consideration	3.8601	.99719	11
B5	Self-evaluation	3.7902	.97759	14
C	**Lecturer Related Factors**			
C1	Lecturer preparedness	4.4476	.99065	1
C2	Lecturer academic experiences	4.3566	.99581	4
C3	Lecturer expertise	4.4196	.98876	2
C4	Lecturer Interpersonal/Communication skill	4.3217	1.00423	5
C5	Lecturer responsiveness	1.6573	.83164	22
D	**Institution-Related Factor**			
D1	Financial Assistance	3.6783	.92387	20
D2	Tuition Fee/Cost	4.2587	1.01199	7
D3	Computer availability	3.9720	1.00663	10
D4	Classroom environment	4.0769	1.00756	9
D5	Library Services	3.8042	.98051	14
D6	Graduation Rate	4.2937	1.04026	6
D7	Recreation Services	3.6573	.95020	21

Conversely, the three least important factors are the availability of financial assistance (3.678), recreation services (3.657), and responsiveness of lecturers (1.657).

Table 2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
					Change Statistics					
1	.449[a]	.201	.196	.67837	.201	35.545	1	141	.000	
2	.520[b]	.271	.260	.65063	.069	13.282	1	140	.000	
3	.523[c]	.273	.258	.65167	.003	.553	1	139	.458	
4	.528[d]	.279	.258	.65164	.005	1.014	1	138	.316	1.123

A. Predictors: (Constant), Lecturer Factor

B. Predictors: (Constant), Lecturer Factor, Institution Factor

C. Predictors: (Constant), Lecturer Factor, Institution Factor, External Influence

D. Predictors: (Constant), Lecturer Factor, Institution Factor, External Influence, Program Factor

e. Dependent Variable: Dependent Variable

Table 2 describes the overall model. Since hierarchical method was adopted in the analysis for exploratory purposes, it therefore means 4 model were generated. Model 1 refers to the first stage in the hierarchy, when lecturer factor is used. Model 2 refers to when lecturer factor, institution factor were predictors. Model 3 refers to when institution, lecturer and personal factors were predictors and Model 4 refer to when all four predictors are used. From the model summary shown in table 2 it can be seen that when only lecturer factor is used as predictor as indicated in the first model R^2, which we already know is a measure of how much of the variability in the student satisfaction (outcome variable) is accounted for by the predictors. For the first model its value is 0.201 which mean that lecturer factor contributes 20.1% to student satisfaction. However, when the other 3 predictors are included, it increased to 0.279 or 27.9%.

Table 3 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.358	1	16.358	35.545	.000[b]
	Residual	64.887	141	.460		
	Total	81.245	142			
2	Regression	21.980	2	10.990	25.962	.000[c]
	Residual	59.265	140	.423		
	Total	81.245	142			
3	Regression	22.215	3	7.405	17.437	.000[d]
	Residual	59.029	139	.425		
	Total	81.245	142			
4	Regression	22.646	4	5.661	13.333	.000[e]
	Residual	58.599	138	.425		
	Total	81.245	142			

A. Dependent Variable: Dependent Variable

B. Predictors: (Constant), Lecturer Factor

C. Predictors: (Constant), Lecturer Factor, Institution Factor

D. Predictors: (Constant), Lecturer Factor, Institution Factor, External Influence

E. Predictors: (Constant), Lecturer Factor, Institution Factor, External Influence, Com

Program Factor

Table 3 shows the next part of the analysis which contains the ANOVA that test whether the model is significant better at predicting student satisfaction (outcome. variable). F-ratio greater than 1 implies that improvement due to fitting the regress model is not by chance. Table 4.8 indicates F-ratios decreasing from 35.545 – 13.333. The final part of the analysis is concerned with the parameters of the Model.

In table 4 the b-values are shown, which tell the relationship between outcome and each predictor. A positive coefficient indicates positive relationship between predictor and outcome. Whereas negative coefficient represents a negative relationship. From table 4 we have two positive and two negative b-values.

Table 4.9: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Correlation			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	2.487	.333		7.478	.000	1.830	3.144					
	Lecturer Factor	.496	.083	.449	5.962	.000	.332	.661	.449	.449	.449	1.000	1.000
2	(Constant)	1.570	.406		3.866	.000	.767	2.373					
	Lecturer Factor	.374	.087	.338	4.319	.000	.203	.545	.449	.343	.312	.850	1.177
	Institution Factor	.372	.102	.285	3.644	.000	.170	.573	.416	.294	.263	.850	1.177
3	(Constant)	1.598	.409		3.912	.000	.791	2.406					
	Lecturer Factor	.431	.116	.390	3.715	.000	.202	.661	.449	.301	.269	.474	2.109
	Institution Factor	.373	.102	.287	3.655	.000	.171	.575	.416	.296	.264	.849	1.177
	External Influence	-.068	.092	-.075	-.744	.458	-.250	.113	.279	-.063	-.054	.512	1.952
4	(Constant)	1.782	.447		3.983	.000	.897	2.667					
	Lecturer Factor	.469	.122	.424	3.846	.000	.228	.709	.449	.311	.278	.431	2.322
	Institution Factor	.368	.102	.283	3.601	.000	.166	.570	.416	.293	260	.847	1.180
	External Influence	-.053	.093	-.058	-.566	.572	-.237	.132	.279	-.048	-.041	.498	2.007
	Program Factor	-.095	.095	-.086	-1.007	.316	-.283	.092	.151	-.085	-.073	.715	1.398

DISCUSSION

Variables Influencing Student Experience

The first objective of the study was to identify and evaluate the influencing factors responsible for student experience. Twenty-two (22) variables were identified in literature that formed the basis of the questionnaire for the study.

Determinants Student Learning Experience

The second objective of the study was to determine the most significant factors influencing students learning experience in the Quantity Surveying Programme, Federal Polytechnic Bauchi. The result in table 1 reveal the first five most significant influencing factors of student learning experience in the Quantity Surveying Programme, Federal Polytechnic Bauchi to be lecturer preparedness, lecturer's expertise study material(handouts) lecturer's academic experience and lecturer interpersonal/communication skill.

Lecturer Preparedness

According to this research, undergraduates' perceptions of our quantity surveying program's pleasure are strongly correlated with their perceptions of the lecturer's preparedness. In a study with 200 students, Siming, et.al., (2015) found that the amount of preparation a lecturer does before giving a lesson had a significant impact on the students' learning experiences. Students believe that academic quality has been significantly compromised by an unprepared lecturer who lacks organization before delivering a lesson. Being ready for a lecturer entail putting together assignments and lecture notes on time, both of which are related to the learning objectives of the course. Butt and Rehman (2010), in their study conducted in Pakistan, concluded that the most sensitive element determining student satisfaction is the teachers' expertise. This finding is consistent with this study finding.

Lecturer Expertise

Lecturer's expertise is the second most significant factor that was identified to affect student learning experience in the Quantity Surveying Programme, Federal Polytechnic Bauchi A lecturer's ability to apply their knowledge in a particular sector to improve students' comprehension of concepts they are teaching is referred to as their expertise. Yusoff, et.al., (2015) stated in their study that in order to effectively instruct students, a competent lecturer must possess expert knowledge and skill in a particular area. Yap, et. al., (2022) discovery that lecturer expertise is one of the elements influencing students' satisfaction lends weight to this conclusion. In summary, it's critical to remember that students anticipate their lecturers to be subject-matter experts with the depth of knowledge necessary to improve their learning outcomes and raise their level of satisfaction with the educational process.

Study Material (Handouts)

The third most significant factor influencing student learning experience in the Quantity Surveying Programme, Federal Polytechnic Bauchi. The most popular teaching method in Nigerian tertiary institutions is lecture (Munyoro, 2014). Over time, nonetheless, it has been noted that if students are overburdened with material, lectures may become ineffective (Munyoro, 2014). The Federal Polytechnic permitted lecturers to offer additional resources in the form of handouts, whether in hard copy or electronic

format, as a solution to this issue. The results of this study show that Federal Polytechnic Bauchi students truly enjoy their handouts as, in addition to providing a thorough synopsis of the lecture, they are simple to read and study for exams, and they allow students to make up for any lectures they may have missed. This finding is supported by Wonglietkachorn, et. al, (2014) who in their study noted that handouts are crucial. Removing them could significantly impair students' ability to focus and comprehend engaging lectures.

Lecturer's Academic Experience

The fourth important component that affects students' experiences in the Federal Polytechnic Bauchi Quantity Surveying Program is the academic experience of the lecturers. A lecturer's academic experience is a culmination of exposure, training, and developed skills that enable him or her to carry out their current duties more successfully. This experience will have an impact on the way lecture notes are written and the kind of answers students receive. For example, poorly researched and out-of-date lecture notes might have a detrimental effect on students' interest in a subject. Amos and Hassan (2019) assert that a lecturer's capacity to answer questions on the spot has a significant impact on how satisfied students are. When a professor continually declines to participate in a conversation or fails to answer a question, students can become irritated. Wrenn and Wrenn (2009) claim that classroom discussions offer an engaging and dynamic setting where students can converse, hear one another's answers to questions, and foster small-group engagement.

Lecturer Interpersonal and Communication Skill

The fifth important component that affects students' experiences in the Federal Polytechnic Bauchi Quantity Surveying Program is the lecturer's interpersonal and communication skills. A lecturer's interpersonal and communication skills are defined by Ghazal, et.al., (2018) as the lecturer's practice of interacting impartially with students by offering the required encouragement and assistance in a timely manner during the learning process. Ng's (2018) findings, which show a substantial association between a lecturer's interpersonal and communication skills and learning experiences, support this finding. That is why according to Amos and Hassan (2017) observed that lecturers who are personable, friendly, and have a positive attitude toward students are likely to have a significant impact on students' performance and satisfaction. Ng (2018) came to the conclusion that a lecturer's capacity for self-expression benefits the educational experience of their pupils. Marton (2019) came to the additional conclusion in his research that a lecturer's presentation is a crucial component in helping students understand the material.

Contributions of Influencing Factors on Students Learning Satisfaction

The second objective of the study was to determine influencing factors correlate to student satisfaction students learning experience in the Quantity Surveying Programme, Federal Polytechnic Bauchi. the result in Table 3 can be interpreted as meaning that the initial model significantly improves our ability to predict student satisfaction but that the other models with extra predictors are less good because the F-ratio is decreasing. The next part of the analysis is concerned with the parameters of the model. In table 4, the b-values indicate to what degree each predictor affects the outcome if the effect of all other predictors are

held constant and tell us about the relationship between outcome and each predictor. A positive coefficient value indicates positive relationship whereas a negative coefficient represents a negative relationship.

From Table 4.9 we can deduce that model 4 represent the model with all predictor and this gives an equation with the following relationship.

Student Satisfaction = 1.782 + 0.47 (lecturer factor) +0.37 (institution factor) - 0.053(external influence) – 0.095 (programme factor)

Lecturer factor (b = 0.47) – this indicate that as lecturers improve on their preparedness, expertise responsiveness and experience; student satisfaction increases by 47%. This interpretation is true only if the effects of programme, external influence and satisfaction are held constant.

Institution Factor (b = 0.37) - this indicates that as the federal Polytechnic Bauchi improves on her facilities student satisfaction increases by 37%.

Finally, external influence and programme factor have negative relationship with student satisfaction in this study. This indicates that any increase in programme and external influence factor will decrease student satisfaction.

CONCLUSION

In order to accomplish its goal of examining the factors that influence student satisfaction, the study used a literature review, interviews, and questionnaires. It concluded that the most important factors that influence student satisfaction in the Quantity Surveying Programme at Federal Polytechnic Bauchi are those related to the lecturer and the institution; external influences and program factors have a negative relationship with student satisfaction in the Quantity Surveying Programme at Federal Polytechnic Bauchi; lecturer and institution factors contribute 28% to student satisfaction in the Quantity Surveying Programme at Federal Polytechnic Bauchi; and that student satisfaction is strongly correlated with academic performance and encourages student retention and that Student satisfaction is an indicator of institutional performance

RECOMMENDATION

Based on the finding of the study, these recommendations are suggested

- (i) In order to improve learning, lecturers should look for local issues that students can connect to and solve; case studies and real-world examples are useful tools for delivering modules.
- (ii) The Federal Polytechnic Bauchi should establish a welcoming and favorable learning environment, improve classroom equipment with cutting-edge technology, and employ creative teaching strategies from lecturers.
- (iii) In order to give students all the knowledge they need about the curriculum and opportunities, lecturers should promote open and honest communication between them and their students.

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