

STUDENT FACTORS AS PREDICTORS OF THEIR LEVEL OF SATISFACTION WITH ASSESSMENT POLICIES AND PRACTICES IN NIGERIAN UNIVERSITIES

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Abstract

Student satisfaction with assessment policies and practices is crucial for academic success and institutional reputation because of the transformational nature of university education. There is therefore need to evaluate the factors affecting the workability of these assessment policies and practices. This study explored student factors as predictors of their level of satisfaction with assessment policies and practices in Nigerian universities using logistic regression analysis. A predictive correlational research design was adopted for the study. A total of 240 undergraduates in the faculty/school of the two universities consented, filled and submitted the questionnaire and were fit for use (male = 43.6%; female = 56.4% with mean age = 2.26 ± 1.05). Students' Satisfaction with Assessment Policies and Practices Questionnaire (SSAPP_Q) developed and validated by the researchers with reliability estimate of .85 was used for data collection. The research questions were answered using logistic regression analysis. Results revealed that individual student's age, level of study, gender and CGPAs at different levels did not significantly predict their satisfaction with assessment policies and practices in their various universities. It was recommended among others that government should provide tailored support for students with diverse academic background and different age levels to ensure that they adapt to their school assessment policies effectively.

Keywords: Assessment policies, binary logistic regression, practices, student factors

Introduction

Nigerian higher education has come a long way with varied policies and practices and tasked with the responsibility of preparing students for the demands of a dynamic and competitive global economy (Okebukola, 2018). These policies play significant role in shaping students' academic experiences and outcomes. Satisfaction with these policies and practices is not only indicative of the quality of education but also influences students' engagement, motivation, and overall success (Baird &

Thomson, 2002; DeCristofano & Sorcinelli, 2006; Kember et al., 2007).

In the landscape of higher education in Nigeria, effective assessment strategies are essential in gauging students' acquisition of knowledge, skills, and competencies necessary for their future success. Assessment generally involves drawing conclusions about a student's behavior, their achievements and occasionally their emotional states (Baker, 2012), determining students' strengths and weaknesses and ensuring the quality of education provided by schools (Okoye, 2023). These are guided by several laid down policies depending on the educational level. Assessment policies ensure that there is consistency in the approach to assessment, offer guidelines and procedures that help maintain standard (Samuel Whitbread Academy, 2018), encompass and dictate practices and extend beyond them (Watkins, 2012).

In the Nigerian context, the educational system is guided by the National policy document which describes the goals and objectives of the various levels of the system as well as the means of achieving the goals and the standards for quality education (FME, 2013). Further interpretation and elaboration of these goals as it pertains to University Education are given by specialized agencies like the National Universities Commission (NUC). Individual universities like Nnamdi Azikiwe University senate equally draw up their own regulations which are contained in their General Academic Regulations to serve as a guide towards the discharge of their functions (Nnamdi Azikiwe University, 2019).

Based on NUC guidelines, students' assessments are to be achieved through written essay and objective examinations, individual and group projects, term paper/seminar presentations, oral examinations, field experience assessments, laboratory performance, take home examinations, open book examinations etc (NUC, 2007). Equally there will be continuous assessment practice and the weighting should be between 30% and 40% of the final grade in each course. Some authors, Iliya (2022), Ugodulunwa (2020), identified different classroom assessment practices which include formative and summative assessments, individual, group, ipsative and referencing assessments, objective and subjective assessment, informal and formal assessment, traditional and authentic assessment, paper-pencil and computer based assessment. Exploring formative assessment practice in Nigerian universities for instance, Ugodulunwa et al (2021), found that teachers provided students with assessment feedbacks and involved them in defining learning objectives.

The quality of these assessment practices directly influences the overall learning experience and academic performance of students (Oyebamiji & Babalola, 2020). Thus, the actual practice of these assessment policies which are peculiar to the various Universities will most likely generate divergent levels of students' satisfaction with the policy. Kanwar, (2021), defines students' satisfaction as an attitude resulting from an assessment of student's educational experience, services and facilities. It closely relates to students' perception of assessment as fair, effective and engaging as a result of their educational experiences.

Students satisfaction with assessment methods may contribute to improved students' retention (Cant et al, 2023), learning outcomes (Pereira & Fernandes, 2018) and students' engagement. Conversely, dissatisfaction with assessment processes can lead to disengagement, de-motivation, and hindered academic progress among students. Addressing students' satisfaction with assessment policies and practices aligns with broader efforts to enhance the quality and relevance of higher education in Nigeria characterized by shifts in pedagogical approaches, technological advancements, and changing student demographics (Adebowale & Tijani, 2021). Various personal factors have been pointed out which play significant roles in shaping students' satisfaction with life, academic programmes, assessment policies and practices (Ansari, 2011, Wilcox & Nordstokke, 2019).

Neto et al, (2023) found that students' character strengths and personality predicted their preference for continuous assessment and multiple choice methods. In a study by Shraim, (2018), 342 sampled undergraduate students showed more preference for traditional as against online form of examination. Pourbahram et al, (2023), established that students had negative feelings towards assessment practices and considered it redundant. For these students, assessments were: stressful, unfair, lacked standard, lacked validity and reliability, lacked feedback, incorporated irrelevant questions and adopted inappropriate test formats. For Pereira et al (2021), students preferred alternative assessment as effective, fair, and engaging as against traditional methods. Satisfaction with assessment cuts across private and public universities (Yakubu, 2023).

Thus far, it is clear that students' satisfaction with assessment practices is a multifaceted issue that pervades various aspects of a student's educational experience and has garnered significant attention in recent years (Mathur et al., 2024). The contributory factors include academic background of the students like previous academic achievements, the type of secondary school attended, type of course studied or programmes of study, and socio-demographic factors such as age, gender, and socio-economic status. There is a strong correlation between students' previous academic achievement and their satisfaction (Dhaqane, & Afrah, 2016, Watkins & Johnson, 2015). Student characteristics like demographic traits, attitudes and academic achievement are strong predictors of students' satisfaction in psychology and other field (Green et al, 2015). Students' perception of self-assessment, were influenced by education level (Andrade, 2019) and in the studies by Singh & Singh (2020), Pereira (2022), programme of study was a significant factor. On the other hand, Vaessen (2021) found that there was a lack of significant gender and age effects on students' perceptions of assessment. Rather students' attitudes towards assessment were influenced by various personal factors, including their willingness to approach lecturers for feedback, their beliefs about what aspects of learning should be evaluated, and their level of anxiety when facing oral assessments. Additionally, their emotional maturity in receiving and handling feedback, as well as their individual abilities and strengths, also shaped their perceptions and experiences with assessment.

Drawing on existing literature, this paper employs logistic regression analysis to examine these student factors as predictors of student satisfaction with assessment policies and practices. Logistic regression is particularly well-suited for this purpose because it accounts for the non-linear relationship between predictor variables and categorical outcomes (Tabachnick & Fidell, 2013). In the context of assessing students' satisfaction levels, logistic regression can be used to identify which factors are most strongly associated with higher or lower levels of satisfaction, thereby providing valuable insights into the determinants of students' perceptions of assessment. Acheampong, (2013), applied Logistic regression analysis to assess students' satisfaction in Methodist university college Ghana. Celik (2019), utilized logistic regression to determine students' likelihood of passing and gaining entrance into Gazi University Institute of Natural Sciences. Equally, Simonetti (2017), applied logistic regression model to analyze students' evaluations of university teaching. This current study adopted logistic regression to analyze data on student factors considered as predictors towards satisfaction with assessment policy and practice in federal higher institutions in Anambra State of Nigeria.

Research Questions

1. How well does the model predict outcome?
2. What is the logistic model equation for the study?
3. What is the relative predictive strength of student's level on their satisfaction with assessment policies and practices?
4. What is the predictive power of students' age on their satisfaction with assessment policies and practices?
5. How do students' gender predict their satisfaction with assessment policies and practices?
6. Do students' academic performance (CGPA) of students predict their satisfaction with assessment policies and practices?

Methodology

The study adopted a predictive correlational research design. and was conducted across the two federal higher institutions in Anambra State that awards bachelor's degree in education (federal college - 482 (31%) and federal universities - 1,121 (74%). The population comprised an estimate of 1,515 undergraduates (males = 74 (5%) and females = 1441 (95%). A researcher-developed structured questionnaire titled Students' Satisfaction with Assessment Policies and Practices Questionnaire (SSAPP_Q) was used for data collection. It consisted of two sections – A and B. Section A was designed to obtain personal data of the respondents while Section B consisted of three clusters. Cluster I has seven items designed to explore the level of students' satisfaction with assessment practices. Similarly, Cluster II consisted of ten items which sort to retrieve information on students' perception of the consistency of the assessment procedures while cluster III sort information on

students' prior experiences with assessment procedures. The instrument was validated by three experts from measurement and evaluation. The reliability estimate of .85 was established using Cronbach Alpha reliability technique which tests the consistency and stability of the instrument. This stability coefficient indicate that the instrument was fit for the investigation. Also, the data obtained yielded Cronbach Alpha for the three clusters as follows: Cluster I = .809, Cluster II = .849 and Cluster III = .482. The instrument's reliability coefficient of .85 indicate the items of the instrument measured the specified traits. This is in agreement with the postulation of Frost (2024) that at .7 and higher, items sufficiently consistent to indicate the measure is reliable

Out of the five higher institutions in Anambra State, two institutions were employed for this study on the considerations that they are federal institutions and had faculty/school of education domiciled in them. Simple random sampling technique was adopted in selecting 241 undergraduates in the faculty/school of the two universities. These subjects consented, filled and submitted the questionnaire and were fit for use (male = 43.6%; female = 56.4% with mean age = 2.26 ± 1.05). The data were analysed using statistical package for social sciences (SPSS version 25). A binomial logistic regression method was performed since the satisfaction levels are of two categories (satisfied and not satisfied). Binary logistic regression is used to model the relationship between one or more independent variables (level of study, age, gender and CGPA) and a binary dependent variable (Level of satisfaction). The parameters were obtained by maximum likelihood method and assess overall model fit and predictive accuracy. The result was then interpreted and validated. The Nagelkerke R^2 , Cox & Snell R^2 and Hosmer- Lemeshow test were used to assess the model fit. The Wald statistic, likelihood ratio test and odds ratio with 95% Confidence Interval (C.I) were used to assess the significance of the individual coefficient.

Results

Model fit: The Hosmer and Lemeshow test was used to test the model fit for the data.

Table 1: Goodness-of-fit test

Hosmer and Lemeshow Test			
Step	Chi-square	Df	Sig.
1	15.174	7	.64

Table 1 shows the Hosmer-Lemeshow test. Hosmer-Lemeshow statistic indicates a poor fit if the significance value is less than 0.05. In the present study, there is a non-significant p-value (.64 > 0.05) which indicates good fit, meaning the model's predictions are consistent with the observed data.

Table 2: Contingency Table for Hosmer and Lemeshow Test

		Satisfaction level = unsat		Satisfaction level = sat		Total
		Observed	Expected	Observed	Expected	
Step 1	1	6	6.477	22	21.523	28
	2	4	3.942	17	17.058	21
	3	7	6.639	29	29.361	36
	4	7	3.992	15	18.008	22
	5	1	6.615	49	43.385	50
	6	2	1.718	11	11.282	13
	7	7	3.078	17	20.922	24
	8	1	2.235	24	22.765	25
	9	0	.303	21	20.697	21

Table 2 further authenticates the goodness-of-fit of the binary logistic model for this study, specifically how well the model's predicted probabilities match the observed outcomes. It compares the observed and expected frequencies of the outcome across variable. The test provides a clear indication of how well the model's predictions align with actual outcomes. The above table 2 shows that approximately 70% of the expected frequencies approximated the observed both for the unsatisfied and satisfied students while only 30% deviated.

Table 3: Summary of Binary regression model

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	190.459a	.37	.65

Table 3 shows the summary of the model employing three measures that allow an overall assessment of validity. The first indicated that the -2 Log Likelihood statistic is 190.459. This statistic measures the level to which the model predicts the decisions -the smaller the statistic, the better the model. The Nagelkerke R-squared coefficient is bounded between zero and one, indicating the significance of the model. Therefore, it is affirmed that the predictor variables explain 65% of the variability of the response variable. This implies that the model adequately predicts the outcome.

Table 4: Variables of the binary regression equation

Variables in the equation		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)		Remark
								Lower	Upper	
Step 1a	Level of study	-.036	.400	.008	1	.929	.965	.440	2.115	Not sig
	Age	-.001	.446	.000	1	.998	.999	.417	2.394	Not sig
	Gender	-.442	.413	1.142	1	.285	.643	.286	1.445	Not sig.
	Academic performance (CGPA)			3.076	3	.380				
	CGPA present level (1)	-18.128	11110.697	.000	1	.999	.000	.000		Not sig
	CGPA at present level (2)	-19.854	11110.697	.000	1	.999	.000	.000		Not sig
	CGPA at present level (3)	-19.460	11110.697	.000	1	.999	.000	.000		Not sig
	Constant	21.379	11110.697	.000	1	.998	192588494.729			

Variable(s) entered on step 1: level of study, gender, CGPA at present level.

$$\log\left(\frac{p(Y=1)}{p(Y=0)}\right) = 21.379 - .036\text{Level} - .001\text{Age} - .442\text{Gender} - 18.128\text{CGPA}(1) - 19.854\text{CGPA}(2) - 19.460\text{CGPA}(3)$$

These coefficients ($\beta_1, \beta_2, \beta_3, \dots, \beta_k$) indicate the change in the log-odds of the dependent variable (Satisfaction with Assessment Policies and Practices) for a one-unit change in a predictor (keeping every other predictors constant). The intercept (21.379) indicates the log-odds of satisfactions with assessment policies and practices by levels, age, gender and CGPAs.

Discussion of Findings

The findings of the present study showed a good model fit with a non-significant p-value of 0.64. This result aligns with Hosmer and Lemeshow (2000) who reported that a non-significant p-value ($p > 0.05$) indicates a good fit while a significant p-value suggests that the model does not fit the data well. Hence the model adequately fits the data for the present study. This in order words revealed that the chosen model (binary logistic model) adequately captures the relationship between the predictors and the outcome variable.

Based on the literature reviewed, satisfaction with assessment policies and practices can be predicted by students' factors such as academic achievement, programme of study, demographic traits and attitudes, students' level of study. From the result of the model, the coefficient for the level of study (-0.036) indicates that for each unit increase in the level of study, the log-odds of being satisfied with assessment practices decreased by 0.036. This effect is not statistically significant ($p = 0.929$), thus implying that the students level of study is not a significant predictor of their satisfaction with assessment practices. The present result contradicts the findings of Andrade, (2019), where students level of study was found as a significant predictor of students' satisfaction with self-assessment. Similarly, the coefficient for age (-0.001) suggests a negligible and statistically insignificant effect on satisfaction with assessment practices ($p = 0.998$). Although this was not significant, the negative

coefficient suggest that higher age is associated with lower odds of satisfaction with assessment practices. Same is applicable to the level of study. This finding agrees with Vaessen, (2021), who established that students' age did not significantly predict their favorable disposition towards assessment. The model also reveals that gender shows a non-significant effect, with males having lower log-odds of being satisfied compared to females, as indicated by a coefficient of -0.442 ($p = 0.285$). This also supports Vaessen, (2021) and Arzu (2016), who found no significant effect of gender towards students' perception of assessment. Vaessen's study was rather of the opinion that students' willingness to request, receive, and utilize feedback, and level of anxiety were among the stronger variables that influenced their positive dispositions towards assessment.

The coefficients for academic performance (CGPA) at different levels are large negative values, but these variables are not statistically significant (p -values = 0.999). This suggests that the CGPA categories included in the model do not significantly predict satisfaction with assessment policies and practices. This result is contrary to the findings of Watkins and Johnson, (2015), Green et al, (2015), and Dhaqane, and Afrah, (2016), where students with higher academic achievement exhibited greater satisfaction with assessment and academic programme in general. Vaessen, (2021) also established that individual students' academic abilities and strengths, also shape their perceptions towards assessment. On the other hand, in a study by Maniriho (2024), while undergraduate female students showed greater satisfaction and self-efficacy in economics, their male counterparts that manifested lesser satisfaction, had greater academic achievement in the subject. However, the study focused on general satisfaction with economics as a subject.

Conclusion

A logistic model was fitted to data from a questionnaire administered to 240 students. The Nagelkerke R^2 value indicates that 65% of the variation in the log-odds ratio was explained by the independent variables included in the model, leaving 35% unexplained. This unexplained variation suggests that there may be additional relevant variables not captured in the current model. Future research could explore these variables, potentially focusing on more detailed aspects of the students' demographic backgrounds. The model also correctly classified 65% of the overall cases, reinforcing its adequacy. However, none of the variables—level of study, CGPA, age, or gender—made a statistically significant contribution to the model's predictive ability, although the direction was negative. Students' satisfaction with assessment policies and practices were not significantly predicted by their level of study, CGPA, age or gender.

Recommendations

The researchers recommend that

- Variety of innovative assessment practices should be adopted by lecturers in Nigerian Universities to prevent over familiarity and boredom as students' level increase.
- Government should provide tailored support for students with diverse academic background and different age levels to ensure that they adapt to their school assessment policies effectively.
- More interventions should consider a broader range of factors that better support students from diverse academic and demographic backgrounds, ensuring that they can adapt effectively to school assessment policies.

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