

Student Engagement Variables and First Year Undergraduate Retention Rate in University of Uyo, Akwa Ibom State, Nigeria

American Journal of Education and Learning

Vol. 4, No. 1, 98-116, 2019

e-ISSN:2518-6647



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ABSTRACT

The study examined Student Engagement Variables and First Year Undergraduate Retention Rate in University of Uyo, Akwa Ibom State, Nigeria. Five research questions and four hypotheses guided the study. The descriptive survey research design was used for the study. The population comprised 3,447 first year undergraduates from University of Uyo. Purposive and simple random sampling techniques were used to select 548 first year undergraduates studying four-year courses in University of Uyo. Two instruments titled; "Student Engagement Questionnaire (SEQ)" and a documentary analysis checklist were used for data collection. The reliability co-efficient of SEQ was determined using the Cronbach Alpha Analysis and a reliability index of 0.82 was obtained. Mean, coefficient of R value and R² of Simple Linear Regression were used to answer research questions while F ratio of Simple Linear Regression Analysis was used to test the null hypotheses at 0.05 alpha level. The findings of the study revealed that student engagement variables of active learning, student – faculty interaction, teaching strategies and co-curricular activities significantly predicts first year undergraduate retention rate in University of Uyo, Akwa Ibom State. It was therefore concluded that, student engagement variables relate significantly to first year undergraduate retention rate in University of Uyo. Based on the findings of this study, it is therefore recommended amongst others that, faculties should create a healthy learning atmosphere and positive student - faculty interactions in order to guarantee student retention.

Keywords: First year, Rate, Retention, Student engagement, Undergraduate, Active learning, Student-faculty interaction, Teaching strategies.

DOI: 10.20448/8044.1.98.116

Citation | Ekaette Emenike Iroegbu; Bolapeju M. Agboola (2019). Student Engagement Variables and First Year Undergraduate Retention Rate in University of Uyo, Akwa Ibom State, Nigeria. *American Journal of Education and Learning*, 4(1): 98-116.

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Funding: This study received no specific financial support.

Competing Interests: The authors declare that they have no competing interests.

History: Received: 23 January 2019/ Revised: 5 March 2019/ Accepted: 12 April 2019/ Published: 3 July 2019

Publisher: Online Science Publishing

Highlights of this paper

- The study examined Student Engagement Variables and First Year Undergraduate Retention Rate in University of Uyo, Akwa Ibom State, Nigeria.
- The results of the study revealed that student engagement variables of active learning, student – faculty interaction, teaching strategies and co-curricular activities significantly predicts first year undergraduate retention rate in University of Uyo, Akwa Ibom State, Nigeria.

1. INTRODUCTION

University plays an important role in students' academic and social integration, as well as their success in the institutional environment. With the proliferation of higher education institutions and increasing trend in student enrolment, a new age of accountability and competition has emerged in public institutions of learning the world over. Beyond the use of aesthetics to attract students to post-secondary education, universities are expected to perform the task of adequately and effectively engaging, retaining and graduating students in record time. Developing ways and strategies to promote student success in school has been a topic of interest in the last few decades. In the field of education, educational planners, managers and stakeholders are expected to ascertain the factors militating against degree attainment. This information is highly needed so as to propose ways of improving students' engagement that could engender retention. Areas of engagement includes quality feedback mechanism, student-faculty interactions, active and collaborative learning, and so many other unique experiences.

Student engagement is the degree at which school leaders, educators and faculty members involve students in learning opportunities, curriculum design, decision-making processes or governance. The concept of student engagement typically arises when there is a high-level prioritization of educational, teaching and relational techniques by educators that focuses on the intellectual, developmental, behavioural, social, physical, and emotional factors which either enhances or undermines students' learning. Students cannot be successfully engaged by the institution without the determination, need, compulsion and desire to participate in the learning and engagement process. Student engagement is the personal effort students put into their educational activities that lead to successful outcomes. These efforts include time spent studying, student-faculty interactions, and use of available resources (Hu and Kuh, 2002). Therefore, student engagement represents two vital features of collegiate quality; the amount of time and effort students put into their studies and other educationally purposeful activities, as well as how the institution deploys its resources and organizes the curriculum and other learning opportunities to get students to participate in activities that decades of research studies show are linked to student learning (National Survey of Student Engagement, 2011).

Student engagement and involvement has been found to greatly affect learning achievement and it increases student attrition rate. It has been noted that while educational theorists do not all agree that involvement and engagement are the same; the terms are used interchangeably (Axelson and Flick, 2010). Engagement is a robust predictor of student learning, grades, achievement test scores, and graduation (Skinner and Pitzer, 2012). As further stated by Dharmayana *et al.* (2012) student engagement is a process that shows the attention, interest, investment, effort and involvement of students used in learning.

Student involvement has to do with the participative extent to which students involve themselves in class, course or activities. Astin as cited in Trowers (2016) defined student involvement as the amount of physical and psychological energy that the students devote to the academic experience. Astin went further to define a highly involved student as one who invests a substantial amount of energy in studying, one who comes to campus and actively participates in student organizations, and engages in frequent interactions with faculty and peers. An uninvolved student would have the opposite effect, showing disengagement from campus activities, faculty and

peers. Students have been observed to leave school especially after the first- year of enrolment due to their inability to fully adjust and get themselves acquainted with the new and higher educational level. This, coupled with the low level of involvement has greatly contributed to the high rate of undergraduate attrition. Student involvement, as further described by [Briggs \(2015\)](#) is the level of interest demonstrated by students; how they interact with others in the course; and their motivation to learn about the topics.

The first year of the bachelor's degree programme is an extremely important period which helps undergraduates to grow and become successful in society and the world. The retention and persistence of first year undergraduates in higher education institutions are issues of concern across the world as students' retention rates has been dropping within higher education. Retention is measured by the percentage or proportion of students who return for the next academic session in their course of study. The word retention can be used interchangeably with persistence, and its inverse is attrition. [Madgett and Belanger \(2008\)](#) identify retention as an attractive method for nations to ensure a steady supply of university graduates and alleviate imbalances and shortages. National Center for Higher Education Management System (NCHEMS) also defines retention as the number of first-time, full-time undergraduates who return either as full-time or part-time students in the fall semester following their initial fall enrolment ([NCHEMS \(National Center for Educational Management Systems\), \(2009\)](#)). This definition does not make a distinction between institutional effort and student desire.

Persistence is defined as the ability of students to continue their postsecondary studies from one year to the next and ultimately to proceed to the completion of the program ([Parkin and Baldwin, 2009](#)). It is necessary to note the differences in these terms in that retention is an institutional measure, while persistence describes the intentions or decisions of individual students, though they both refer to the same notion. Persistence captures all institutional and external factors which influence a student's desire to remain at an institution while retention does not account for factors which cannot be controlled by the university and its practices. Persistence and retention will both be considered for better understanding of the role played by the institution and students towards the retention rates in universities.

Active learning is a process that focuses more on developing students' skills by engaging them in some form of activities like reading, writing, and discussing which requires higher – order thinking than on transmitting information. [Brame \(2016\)](#) defined active learning as activities that students do to construct knowledge and understanding. The activities vary but require students to do higher – order thinking. When students engage in active and collaborative learning, they learn more and are intensely involved in their education ([Kuh, 2009](#)). As reported in [Carr et al. \(2015\)](#) the items used to measure active learning are; working with other students on projects during class; making a presentation; asking questions; contributing to discussions; participating in a community-based project as part of a course; working with other students outside of class on assignments; discussing ideas from a course with others outside of class; and tutoring peers. The pause procedure, retrieval practice, demonstrations, and think-pair-share are some of the techniques to use in active learning while concept map, mini-maps, decision making activities, case-based learning, student-generated test questions, and strip sequence are some of the activities used to replace some lecture. Creating an environment that enables personalization of learning encourages students to become more engaged ([Nygaard et al., 2009](#)). Active and collaborative learning are poorly implemented in our universities and this adversely affects the students, thereby becoming one of the reasons why students drop-out.

Student-faculty interaction is the constant and quality relation between students and faculty that is significantly beneficial to undergraduates' engagement and success. The faculty plays a vital role in student engagement and this is achieved by the quality of interactions with students in the school. As defined by [Kuh](#)

(2009) student-faculty interaction is the quality of communication between student and faculty. Five distinct interactions are found to be present in student-faculty interactions namely; disengagement, incidental contact, functional interaction, personal interaction and mentoring (Cox and Orehovec, 2007). This suggests that almost all types of student-faculty interactions have an effect on students' retention and that informal/non-academic interaction between student and faculty also provides meaningful results. Student-faculty interactions should be seen as a normal day-to-day activity with high quality and frequency irrespective of the medium used. As declared by Fuentes *et al.* (2014) higher quality and quantity of interaction in the first year of college is positively correlated to higher quality and quantity of interaction throughout a student's college experience. Attrition is bound to occur when there is no constant and quality interaction between students and faculty which most times serve as a source of motivation and engagement.

Teaching strategies that will successfully engage students is a key to retention. When teachers only transmit information, student learning is never guaranteed. Teaching strategies comprises the principles and methods used by teachers to enable student learning. Promoting critical thinking and developing self-regulated learners will be the focus under teaching strategies. Facione as cited in Rowles and Russo (2009) declared that critical thinking involves examining ideas, formulating questions, recognizing assumptions, analyzing arguments, drawing conclusions, reflecting upon outcomes and using deductive reasoning in decision making. When students have opportunities to collaborate with peers and to be engaged in a classroom environment, they are being supported in becoming self-regulated learners. Self-regulated learners refer to the degree to which students are proactive and responsive participants of their own learning process (Zimmerman, 2008). Specifically, self-regulated learning engages in a number of processes including using favourable strategies to accomplish set goals, self-monitoring, and self-evaluating their own progress. Once a student enjoys the intellectual process of critical thinking and becomes self-regulated, the student has more capacity for negotiating challenges within the classroom and institution that will culminate into the successful completion of the course thereby eliminating the prospect of attrition.

Co-curricular activities refer to those activities that complement learning experiences and programmes that are connected to or that mirror the academic programmes organized to help students have a better understanding of his/her course. Examples of co-curricular activities are quiz, seminars, conferences, workshops, exhibition, debate, discussion, and so on. Extra-curricular activities on the other hand, which is sometimes referred to as Extra Academic Activity (EAA) refer to those activities which are totally outside the realm of normal curriculum, but are essential for the all-round development of students. These activities particularly help in diversifying the curricular to cater for the differences in talents and provide opportunities and roles which are open to students. Examples are swimming, gymnastics, athletics, weaving, tailoring, singing, acting, and so on.

Students are always known to clamour for co-curricular activities on campus that would complement work learned in the classroom. Lack of this form of engagement activities along with other issues like increased tuition cost, campus administration, may cause students to seek for transfer to other colleges to complete their degree programme. The concept of student engagement typically involves the degree of students' involvement or interest in their learning experience, as well as their sense of connection to the learning environment, including their classes, faculty, peers, and the institution itself (Trowers, 2016).

Be that as it may, the researchers' observation of the University of Uyo shows poor first year undergraduate retention rate as a result of poor student engagement. It has been observed that students tend to drop out more after their first year in the university. This could be attributed to inactive learning, poor student-faculty interaction, ineffective teaching strategies, and students' lack of involvement in co-curricular activities. Student

engagement lies at the heart of retention and therefore offers institutions the answer to their improvement. Essentially, institutions need to attend to not just the number and range of interventions or services they provide, but the quantity and extent of students' interactions with those as well as the institution more broadly. Successful higher education depends on a partnership between a student and the institution they attend (Thomas and May, 2011). It is on this background that the study was undertaken to determine the extent to which student engagement variables predicts first year undergraduate retention rate in the University of Uyo.

2. LITERATURE REVIEW

The study adopted (Astin, 1984) and adapted it to students' engagement in universities. The theory emphasized that a positive academic experience in college campuses was based on the students' interaction with faculty, involvement in co-curricular activities, and interaction with peers. The core concept of the theory was composed of three elements; input – environment – output which explains how desirable outcome for institutions of higher education are viewed in relation to how students change and develop as a result of being involved co-curricularly. There is a need to focus on the second core concept which involves the environmental elements and experiences that could affect or inhibit students' retention and cause students to either drop out or persist in their academic pursuit.

Active learning strategies enables students to do something practical other than taking notes or following directions. They participate in activities, construct new knowledge and build new scientific skills (Handelsman *et al.*, 2007). Kidron and Kali (2015) states that the 21st century and the 'knowledge revolution' pose challenges that demand different ways of thinking and the development of new skills. It is necessary for instructors to be aware that without engaging the students actively, they stand a risk of having poorly motivated students who lack initiative and as such, may not persist through the course of their academic journey. Pinheiro and Simoes (2012) reported that active learning activities did not meet their potential for collaboration because students did not collaborate early and often enough. Van den Bergh *et al.* (2014) found that educators in their study believed in giving feedback during active learning, but in practice found it difficult to critique students during the process. Proven strategies that engage learners and require them to cooperate, communicate, and collaborate with peers in problem-solving situations can benefit learners at all levels (Pepper and Blackwell, 2012). In a study conducted by Anyaehie *et al.* (2007) on comparative evaluation of active learning and the traditional lectures discovered that the relative performance of candidates in the hybrid model who failed was comparatively better than that of the candidates from the traditional learners group. This implied that the continuous use of the traditional learning technique as opposed to active learning leads to student absenteeism and failure which are some of the reasons for student attrition.

Students' interaction with teachers is a significant factor that determines students' success in higher institution. Studies have discovered that student-faculty interaction plays a significant role in determining student attrition through the application of pedagogical skills that enable students to make smooth transitions to university learning (Huntly and Donovan, 2009; Kim and Sax, 2009). Esin (2013) argued that faculty must recognize and view their role as a credible vehicle for student growth and fulfillment of academic dreams so that students can become productive citizens and leaders. In realizing this role, faculty must engage in student interactions that extend beyond academic lecturing and include engagement in academic and behavioural mentorship tasks (McArthur, 2005). Guiffida (2005); McArthur (2005) and Saret (2009) reported that students feel that retention efforts that support both academics and student life can reinforce their persistence to remain in school and complete their degree programs. Positive faculty-student interactions and taking advantage of

resources that promote academic success such as learning centers, tutorials and office hours have been demonstrated to positively influence retention (Habley, 2004). In a study by Wang'eri *et al.* (2016) to investigate the relationship between student-faculty interaction and student attrition in private universities, attrition level of 37% was established with a negative significant relationship between student-faculty interaction and student attrition rate. The findings also revealed that a high number of respondents, 68% of male students and 66% of female students, were of the view that the role of student-faculty interaction was for the lecturer to offer guidance and counseling in academics matters. Research project and periodic faculty meetings with students are some of the programs that encourage faculty-student interaction as well as engagement with academic pursuits thereby encouraging students to integrate into the university or college community.

Teaching strategies are the how of teaching and it involves the different methods of teaching that instructors utilize and integrate into the classroom to help their students understand new concepts. Research indicates that teachers' instruction and strategies have the most proximal relation to student learning (Marzano *et al.*, 2011). While the behaviors of students and aspects of the learning environment constitute considerable proportions of engagement, the teachers and their approaches to teaching in the classroom also encourages or discourages student engagement (Zepke and Leach, 2010; Gasiewski *et al.*, 2012). Even with many strategies for active learning to combat disengagement (Barkley, 2010) and an understanding of student characteristics (Kuh *et al.*, 2005; Rocca, 2010; Zepke and Leach, 2010) student apathy as perceived by teachers is a tangible phenomenon within college classrooms (Kahu, 2011; Jonasson, 2012; Van Uden *et al.*, 2014). In order for the method used in teaching to be effective, teachers need to explore more teaching strategies away from the traditional methods that will be effective while taking into cognizance the complexity of the concept to be studied. Student-centered method, active learning, teacher-student interactive method, differentiated instruction, and use of technology are some of the effective teaching strategies. Hong and Yam (2010) carried out a study which explored how students perceive the usefulness of tutoring strategies adopted in the first six weeks of study and identified student-centered teaching style as the most significant factor in engaging students' learning and in assisting students with their transition. Cooperative learning, inquiry-based learning, problem-based learning, think-pair share, and project-based learning are teaching strategies that are capable of getting students actively involved in their learning and helps them construct meaningful information on their own (Iroegbu, 2017).

Co-curricular activities are those activities carried out by students to develop their mental, social, physical and moral well-being during the course of their academic programme. Adeyemo (2010) opined that the importance of students' participation in extra-curricular activities cannot be underrated, as it prepares students for future tasks with a view to adjust to the environment and builds confidence in them. If students simply go to class and then go home without engaging in campus activities, they are less likely to be retained nor persist to the completion of their studies. Participation in co-curricular activities is widely thought to play a key role in students' academic success (Huang and Chang, 2004; Hunt, 2005) and contribute to bachelor's degree attainment (Tan and Pope, 2007). Thus, it has been established that extra-curricular services were mainly studied as a correlate of students' academic performance (Alani *et al.*, 2010). Numerous studies have indicated that successful survival in college could be enhanced through co-curricular activities (Tovar and Simon, 2006; Yeager, 2008). One study on second-year retention showed that 'stayers' most likely participated in more extracurricular activities and spent more time on activities such as involvement in student clubs, athletic teams, or other social activities than did 'leavers' (Williford and Wadley, 2008). Students who interact outside of class, especially in extra-curricular activities, often seek assistance with coursework from the same extracurricular activity peer group in which they are involved

(Pascarella and Terenzini, 2005). However, another study seemed to suggest that participation in sports, fraternities, and sororities could either enhance or decrease student academic motivation (Van Etten *et al.*, 2008).

2.1. Statement of the Problem

First year undergraduate retention rate, along with its inverse attrition has become a major performance indicator for universities in Nigeria in recent times. Before and during the recent recession experienced in Nigeria, graduation rates had dropped drastically and actionable plans to improve student retention rates such as active and collaborative learning, academic advising, effective teaching strategies, improved student-faculty interactions, complementary co-curricular activities and so many others are barely being implemented in schools. With higher education institutions facing increasing difficult economic conditions which most times results in poor learning environment, the ability to attract, retain, satisfy, develop and ensure that all students graduate successfully and in record time matters more than ever. In order to fully understand the declining student retention rates, it is critical to understand why students leave school. It has been observed that academic difficulties, cost of education, social difficulties, isolation, unclear expectations, poor communication, lack of intervention programs could be some of the possible reasons why students do not persist to the end of an educational programme at a particular institution and within a stipulated period. Students have been observed to leave school after a history of academic failure, poor engagement, poor teaching strategies, poor interpersonal interaction with the faculty, absence of co-curricular activities and so many other reasons.

There is no single prominent risk factor predicting poor retention rate, rather there are numerous risk factors that in combination with each other, raise the student attrition intention. In Nigeria, due to the high number of students seeking admission into tertiary institutions yearly, it takes candidates a while to gain admission into university education thereby causing a good number of them to opt for any available course. This reduces the student retention rate since majority tend to write the qualifying examination again so as to get the course of their choice, while others decide to apply for a change of course or demand to be transferred to another university. It is very visible that student engagement during the first year of university coursework is particularly important.

Due to this worrisome situation, there is an urgent need to address the possible contributions to student attrition and how student retention rate can be maintained and improved upon. A study that enhances our understanding in this regard will not only shed light on the poor retention rates in universities, but will also enlighten us about the effect of poor student engagement on retention rate and how students can be better engaged so as to have an improved retention rate which will be of immense benefit to parents, institution and the society at large. The fundamental problem for the study therefore is the first year undergraduate retention in relation to student engagement. The elements of the problem are active learning, student-faculty interaction, teaching strategies, and co-curricular activities.

2.2. Research Questions

1. What is the retention rate of first year undergraduate in University of Uyo from 2013/2014 to 2016/2017 academic sessions?
2. To what extent does active learning predict first year undergraduate retention rate in University of Uyo, Akwa Ibom State?
3. To what extent does student-faculty interaction predict first year undergraduate retention rate in University of Uyo, Akwa Ibom State?

4. To what extent does teaching strategies predict first year undergraduate retention rate in University of Uyo, Akwa Ibom State?
5. To what extent does co-curricular activities predict first year undergraduate retention rate in University of Uyo, Akwa Ibom State?

2.3. Research Hypotheses

- Ho₁:** The extent to which active learning predicts first year undergraduate retention rate in University of Uyo, Akwa Ibom State is not significant.
- Ho₂:** The extent to which student-faculty interaction predicts first year undergraduate retention rate in University of Uyo, Akwa Ibom State is not significant.
- Ho₃:** The extent to which teaching strategies predicts first year undergraduate retention rate in University of Uyo, Akwa Ibom State is not significant.
- Ho₄:** The extent to which co-curricular activities predicts first year undergraduate retention rate in University of Uyo, Akwa Ibom State is not significant.

3. METHODOLOGY

The descriptive survey design was adopted for this study. This study adopted this design because it sought to obtain information from a representative sample of the population. The area of the study is the Uyo Local Government area of Akwa Ibom State where the University of Uyo is located. The study was carried out in the University of Uyo. The population of the study comprised 3,447 first-year undergraduates enrolled into the University of Uyo in 2013/2014 to 2016/2017 academic sessions. The purposive sampling technique was used to select students studying four-year courses in the University of Uyo. This comprised seven faculties and 38 departments. From each of the sampled departments and faculties, simple random sampling method was used to select 22% of first year students for the study, resulting in 548 students. This formed the sample size for the study. However, the actual sample for the study was 501 students.

Two instruments were used for data collection. These were documentary analysis checklist which was used to generate data on undergraduate retention rate to answer research question one; and a researcher-developed questionnaire titled "Student Engagement Questionnaire (SEQ)" which was used to gather data on the four variables and to answer research questions two to five. The first instrument was the documentary analysis checklist obtained from the academic planning unit of the University. The checklist had the yearly enrolment and retention data for the sampled population within the review period and this was used to generate data for the undergraduates' retention rate. The data from the trend analysis was used to obtain the mean retention rate which was converted to percentage, thereby making it a continuous data. The second instrument - SEQ had two parts. Part one of the SEQ was made up of general information which took care of the student's faculty, department and level. Part two of the SEQ had 24 items with six items for each variable of active learning, student-faculty interactions, teaching strategies and co-curricular activities. The instrument was structured on a five-point Likert scale of Very High Extent (VHE), High Extent (HE), Medium Extent (ME), Low Extent (LE), and Very Low Extent (VLE). A combination of the scores from student engagement variables with the scores from first year undergraduate retention rate were analysed to determine the extent of prediction, correlation coefficient and the undergraduate retention rate.

The SEQ was subjected to face and criterion validation by three research experts from the Faculty of Education, University of Uyo. The validates comprised one resource person in Educational Management and

Planning, one in Educational Technology and Library Science, and one in Educational Measurement and Evaluation. In order to establish the internal consistency (reliability) of the instrument, a trial test was conducted using 30 undergraduate students of the University of Uyo who were not part of the study sample. After the appropriate scoring of the responses, Cronbach Alpha Analysis was employed to determine the reliability coefficient of the instrument. The reliability coefficient obtained was 0.82.

The study covered four academic sessions, 2013/2014 to 2016/2017. A consent form containing information about the research were initially given to the students to fill before the researcher-developed questionnaire – SEQ was administered with the help of four research assistants who were briefed on what to do. The questionnaires were administered immediately after lecture hours in the lecture room and were collected back on the spot. This was to minimize wastage and maximize return rate. 501 copies of the questionnaire were retrieved out of 548 copies administered to respondents representing 91% retrieval rate.

The data from the questionnaire were sorted, compiled, classified and coded into a coding sheet and analysed using a computerized data analysis package known as Statistical Package for Social Sciences (SPSS). The Integrated Postsecondary Education Data System (IPEDS) formula and Mean were used to answer research question one; coefficient of R value and R² of Simple Linear Regression were used to answer research questions two to four, while Simple Linear Regression Analysis F- ratio was used to test null hypotheses one to four. The Integrated Postsecondary Education Data System (IPEDS) formula for student retention as published by [National Centre for Education Statistics \(NCES\) \(2003\)](#) was used to calculate the Retention Rate (RR). The formula is given as:

$$RR_{4\text{year}} = \frac{\text{Number of students re-enrolled in the following session}}{(\text{Number of students in the session cohort} - \text{Exclusions})} * 100$$

$$RR_{\text{Adapted } 4\text{year}} = \frac{\text{Number of students that remained at the end of the session}}{(\text{Number of students admitted as cohort at the beginning of the session})} * 100$$

In answering research questions two to five, the real limits of assigned values of rating for decision were based on the correlation coefficient values and the associated strength/extent of prediction as summarized by [Uzoagulu \(2011\)](#) as follows:

Coefficient (r)		Relationship
±.00 to ±.20	-	Negligible, very low, little or none
±.20 to ±.40	-	Present, slight, but low
±.40 to ±.60	-	Average, moderate, fairly high
±.60 to ±1.00	-	High, very high

In testing the research hypotheses, the f – calculated was compared with the f – critical at 0.05 level of significance. The research hypotheses were rejected if the calculated f value was greater than the critical f value, and were retained if the critical f value was greater than the calculated f value. The f values were used to test and determine the degree of significance of the regression coefficient (R).

4. RESULTS

Research Question One

What is the retention rate of first year undergraduate in University of Uyo from 2013/2014 to 2016/2017 academic sessions?

Table-1. First year undergraduate enrolment and retention rate in University of Uyo between 2013/14 and 2016/2017 academic sessions.

Faculty	2013/14	2014/15	2015/16	2016/17	Mean	
	Students Admitted	Enrollees Retained	Retention Rate	Enrollees Retained	Retention Rate	Retention Rate (%)
Arts	775	750	96.8	705	91	91.1
Basic Medical	141	135	95.7	131	92.9	91.3
Business Administration	301	294	97.7	285	94.7	94.2
Education	484	453	93.6	444	91.7	89.8
Environmental Studies	70	69	98.6	66	94.3	92.9
Sciences	239	223	93.3	205	85.8	85.9
Social Science	495	483	97.6	473	95.6	94
Total	2505	2407	96.1	2309	92.2	91.4

Source: Academic Planning Unit (2018).

The result in Table 1 shows that 2,505 students were admitted in 2013/14 academic session and 2,407, 2,309 and 2,151 were retained in 2014/15, 2015/16 and 2016/17 academic sessions respectively. It further shows that the retention rate for 2014/15, 2015/16 and 2016/17 academic sessions were 96.1%, 92.2% and 85.9% respectively. Therefore, the overall mean-percent undergraduate retention rate between 2013/14 and 2016/17 academic sessions was 91.4%.

Research Question Two

To what extent does active learning predict first year undergraduate retention rate in University of Uyo, Akwa Ibom State?

Table-2a. Result of R and R² coefficient of Simple Linear Regression Analysis for the extent to which active learning predicts first year undergraduate retention rate (N = 501).

Variables	$\bar{X}$	SD	R	R ²	Std. Error	% Contribution of R
Active Learning	24.058	5.147	0.465	0.216	2.12913	21.4
Undergraduate Retention Rate	91.356	2.402				

Source: Researchers Field Data (2018).

Hypothesis One

The extent to which active learning predicts first year undergraduate retention rate in University of Uyo, Akwa Ibom State is not significant.

Table-2b. Analysis of Variance result of Simple Linear Regression Analysis for the prediction between active learning and first year undergraduate retention rate (N = 501).

Model	Sum of Squares	df	Mean Square	F-cal	F-crit	Decision
Regression	622.991	1	622.991			
Residual	2262.066	499	4.533	137.429	3.84	Reject Ho ₁
Total	2885.058	500				

a. Dependent Variable: Undergraduate Retention Rate.

b. Predictors: (Constant), Active Learning.

R = 0.465, R² = 0.216, Sig. at P ≤ 0.05.

Result in Table 2a shows the R for the strength of relationship and R² for the determination of the extent of prediction between active learning and first year undergraduate retention rate. The R – value of 0.465 indicates a low extent of relationship between the two variables. The calculated R² of 0.216 which is the coefficient of determination indicates that only 21.4% of first year undergraduate retention rate is predicted by active learning. This means that, active learning to a low extent predicts first year undergraduate retention rate. The result in Table 2b shows that the calculated F- value of 137.429 is greater than the critical F- value of 3.84 at 0.05 level of

significance with 1 and 499 degrees of freedom. With this result, the research hypothesis which states that the extent to which active learning predicts first year undergraduate retention rate is not significant was therefore rejected in favour of the alternate one. This means that, the extent to which active learning predicts first year undergraduate retention rate is significant.

Research Question Three

To what extent does student-faculty interaction predict first year undergraduate retention rate in University of Uyo, Akwa Ibom State?

Table-3a. Result of R and R² coefficient of Simple Linear Regression Analysis for the extent to which student-faculty interaction predicts first year undergraduate retention rate (N = 501)

Variables	$\bar{X}$	SD	R	R ²	Std. Error	% Contribution of R
Student-Faculty Interaction	24.070	5.155	0.443	0.196	2.15599	19.4
Undergraduate Retention Rate	91.356	2.402				

Source: Researchers Field Data (2018).

Hypothesis Two

The extent to which student-faculty interaction predicts first year undergraduate retention rate in University of Uyo, Akwa Ibom State is not significant.

Table-3b. Analysis of Variance result of Simple Linear Regression Analysis for the prediction between student-faculty interaction and first year undergraduate retention rate (N = 501)

Model	Sum of Squares	df	Mean Square	F-cal	F-crit	Decision
Regression	565.561	1	565.561			
Residual	2319.496	499	4.648	121.671	3.84	Reject Ho ₂
Total	2885.058	500				

a. Dependent Variable: Undergraduate Retention Rate

b. Predictors: (Constant), Student-Faculty Interaction

R = 0.443, R² = 0.196, Sig. at P ≤ 0.05.

Entries in Table 3a shows the R for the strength of relationship and R² for the determination of the extent of prediction between student-faculty interaction and first year undergraduate retention rate. The R – value of 0.443 indicates a very low extent of relationship between the two variables. The calculated R² of 0.196 which is the coefficient of determination indicates that only 19.4% of first year undergraduate retention rate is predicted by student-faculty interaction. This means that, student-faculty interaction to a very low extent predicts first year undergraduate retention rate. The result in Table 3b shows that the calculated F- value of 121.671 is greater than the critical F- value of 3.84 at 0.05 level of significance with 1 and 499 degrees of freedom. With this result, the research hypothesis which states that the extent to which student-faculty interaction predicts first year undergraduate retention rate is not significant was therefore rejected in favour of the alternate one. This means that, the extent to which student-faculty interaction predicts first year undergraduate retention rate is significant.

Research Question Four

To what extent does teaching strategies predict first year undergraduate retention rate in University of Uyo, Akwa Ibom State?

Table-4a. Result of R and R² coefficient of Simple Linear Regression Analysis for the extent to which teaching strategies predicts first year undergraduate retention rate (N = 501)

Variables	$\bar{X}$	SD	R	R ²	Std. Error	% Contribution of R
Teaching Strategies	24.128	5.102	0.473	0.223	2.11912	22.2
Undergraduate Retention Rate	91.356	2.402				

Source: Researchers Field Data (2018).

Hypothesis Three

The extent to which teaching strategies predicts first year undergraduate retention rate in University of Uyo, Akwa Ibom State is not significant.

Table-4b. Analysis of Variance result of Simple Linear Regression Analysis for the prediction between teaching strategies and first year undergraduate retention rate (N = 501).

Model	Sum of Squares	df	Mean Square	F-cal	F-crit	Decision
Regression	644.215	1	644.215			
Residual	2240.843	499	4.491	143.456	3.84	Reject Ho ₃
Total	2885.058	500				

a. Dependent Variable: Undergraduate Retention Rate

b. Predictors: (Constant), Teaching Strategies

R = 0.473, R² = 0.223, Sig. at P ≤ 0.05.

Result in Table 4a shows the R for the strength of relationship and R² for the determination of the extent of prediction between teaching strategies and first year undergraduate retention rate. The R – value of 0.473 indicates a low extent of relationship between the two variables. The calculated R² of 0.223 which is the coefficient of determination indicates that only 22.2% of first year undergraduate retention rate is predicted by teaching strategies. This means that, teaching strategies to a low extent predicts first year undergraduate retention rate. The result in Table 4b shows that the calculated F- value of 143.456 is greater than the critical F- value of 3.84 at 0.05 level of significance with 1 and 499 degrees of freedom. With this result, the research hypothesis which states that the extent to which teaching strategies predicts first year undergraduate retention rate is not significant was therefore rejected in favour of the alternate one. This means that, the extent to which teaching strategies predicts first year undergraduate retention rate is significant.

Research Question Five

To what extent does co-curricular activities predict first year undergraduate retention rate in University of Uyo, Akwa Ibom State?

Table-5a. Result of R and R² coefficient of Simple Linear Regression Analysis for the extent to which co-curricular activities predicts first year undergraduate retention rate (N = 501).

Variables	$\bar{X}$	SD	R	R ²	Std. Error	% Contribution of R
Co-curricular Activities	24.114	5.121	0.459	0.211	2.13613	20.9
Undergraduate Retention Rate	91.356	2.402				

Source: Researchers Field Data (2018).

Hypothesis Four

The extent to which co-curricular activities predicts first year undergraduate retention rate in University of Uyo, Akwa Ibom State is not significant.

Table-5b. Analysis of Variance result of Simple Linear Regression Analysis for the prediction between co-curricular activities and first year undergraduate retention rate (N = 501)

Model	Sum of Squares	Df	Mean Square	F-cal	F-crit	Decision
Regression	608.087	1	608.087			
Residual	2276.970	499	4.563	133.263	3.84	Reject Ho ₄
Total	2885.058	500				

a. Dependent Variable: Undergraduate Retention Rate

b. Predictors: (Constant), Co-curricular Activities

R = 0.459, R² = 0.211, Sig. at P ≤ 0.05.

Entries in Table 5a shows the R for the strength of relationship and R² for the determination of the extent of prediction between co-curricular activities and first year undergraduate retention rate. The R – value of 0.459 indicates a low extent of relationship between the two variables. The calculated R² of 0.211 which is the coefficient of determination indicates that only 20.9% of first year undergraduate retention rate is predicted by co-curricular activities. This means that, co-curricular activities to a low extent predicts first year undergraduate retention rate.

The result in Table 5b shows that the calculated F- value of 133.263 is greater than the critical F- value of 3.84 at 0.05 level of significance with 1 and 499 degrees of freedom. With this result, the research hypothesis which states that the extent to which co-curricular activities predicts first year undergraduate retention rate is not significant was therefore rejected in favour of the alternate one. This means that, the extent to which co-curricular activities predicts first year undergraduate retention rate is significant.

5. DISCUSSION OF FINDINGS

5.1. Active Learning and First Year Undergraduate Retention Rate

The result of the analysis presented in hypothesis one reveals that the extent to which active learning predicts first year undergraduate retention rate is significant. This result means that active learning predicts undergraduate retention rate. The outcome of this result could be attributed to the fact that when students are actively and collaboratively engaged in learning, they tend to be involved in the learning process which will invariably translate to persistence and retention. But on the contrary, the continuous use of the traditional lecture method that does not encourage student active participation increases the risk of having poorly motivated students who lack initiative and as such, may not persist through the course of their academic journey. The result of this study also aligns with the findings of Mantooth (2011) who stated that student learning, retention and a quality undergraduate instruction experience builds on active learning, prompt feedback, collaboration and student engagement. The result of this hypothesis also agrees with the findings of Barkley (2010) who declared that incorporating diverse active learning opportunities within the classroom will increase learning and deeper understanding of course materials as well as positively influence student engagement in the classroom.

5.2. Student - Faculty Interaction and First Year Undergraduate Retention Rate

In testing hypothesis two, it established that the extent to which student - faculty interaction predicts first year undergraduate retention rate is significant. This result means that student - faculty interaction predicts undergraduate retention rate. The outcome of this result could be attributed to the fact that a student friendly environment, spiced up by high level cordiality between faculty members and students will definitely result in positive academic outcomes. In the first-year university experience, the quality and quantity of student - faculty interaction should be high as this positively correlates to student retention. But on the contrary, attrition is bound to occur when there is no constant and quality interaction between students and faculty which most times serve as a source of motivation and engagement. This finding is in consonance with the view of Crisp (2009) who noted that psychological and emotional support, degree and career support, academic subject knowledge support and the

existence of a role model were important faculty support aspects associated with retention. In agreement to the finding of this study, [Schneider and Yin \(2011\)](#) stated that academic and social integration have been found to be important determinants of attrition as students with poor relations with faculty, especially those who fail to initiate contact with faculty outside the classroom are at a risk of attrition. It is also important to note that the findings of this study to a large degree agrees with the findings of [Komarraju et al. \(2010\)](#) who found that the role of students' and lecturers' interaction through formal talks or otherwise has positive influences on students' development within the university. The finding of this study has also shown that lack of interpersonal interaction and social support from faculty members was a positive predictor of attrition. This is supported by the findings of [Komarraju et al. \(2010\)](#) who all found that students who perceive their faculty members as being approachable, respectful and available for frequent interactions outside the classroom were more likely to finish their degree programs. This is also supported by [Olson and Carter \(2014\)](#) whose report on a survey of 313 students in a 4-year university found that in general, students' retention rate was significantly increased when students perceived faculty as genuinely caring about them.

5.3. Teaching Strategies and First Year Undergraduate Retention Rate

The result of the analysis presented in hypothesis three reveals that the extent to which teaching strategies predicts first year undergraduate retention rate is significant. This result means that teaching strategies predicts undergraduate retention rate. This is seen to be true because the tutoring strategies adopted in the first six weeks of university experience assist in student engagement which enhances the possibility of student persistence. The finding projected the need for tutors to be student – centered in their teaching style particularly during students' transition period. A highly - effective learning environment has student - friendly teaching strategies. [Zepke and Leach \(2010\)](#) confirms this by stating that the teachers and their approaches to teaching in the classroom encourages or discourages student engagement. The result obtained by this study is supported by the earlier findings of [Yam \(2010\)](#) who declared that in order to help students cope with difficulties during the transition, it is essential for tutors to support these first-year students from the beginning by using effective tutoring strategies to improve first-year retention. This is also supported by [Ogbuanya and Owodunni \(2013\)](#) who discovered that the persistent poor academic achievement as well as retention in courses is as a result of the inappropriate teaching methods adopted by teachers. Therefore, as stated by [Williams and McClure \(2010\)](#) teachers must find the most suitable methods to teach the students in order to determine best practices for classroom delivery and minimize achievement loss, using the resources available to them.

5.4. Co-curricular Activities and First Year Undergraduate Retention Rate

The result of the analysis presented in hypothesis four reveals that the extent to which co-curricular activities predicts first year undergraduate retention rate is significant. This result means that co-curricular activities predicts undergraduate retention rate. This finding so obtained could be attributed to the fact that the existence of co-curricular activities complements the school academic programme and also augments students' educational experience especially in the first year. The presence of co-curricular activities in universities leads to increase in enrolment and the students who participate in it were more likely to persist through the course of study to graduation. The finding of this study supports the contention by [Elliot \(2009\)](#) that involvement in intentional, formal, college sponsored, co-curricular programs contributes to student success and development. Furthermore, in consonance with the findings of this study, [Castrechini \(2009\)](#) claimed that students who participates in total extracurricular activities perform better than those that didn't participate. Castrechini further stated that the

participation of students in numerous extracurricular activities not only improve their academic performance in the classroom, but also reduces absenteeism, stimulates them for higher educational aspirations as well promotes students' attendance in the classroom. On the contrary, Ekeke (2012) in a study to examine the influence of extra-curricular activities on the performance of students in Niger Delta University concluded that co-curricular activities in the university has a detrimental influence on the academic performance of students and should not be encouraged. This may have been due to the high rate of militancy and cultism in the area under study. In saner clime, if students simply go to class and then go home without engaging in monitored campus activities, they are less likely to retained nor persist to the completion of their studies.

6. CONCLUSION

Student engagement variables has been identified by various scholars to be very crucial to first year undergraduate retention rate. In view of this, based on the findings of this study, it was concluded that, first year undergraduate retention rate in University of Uyo is no doubt influenced by student engagement variables. Specifically, student engagement variables of active learning, student-faculty interaction, teaching strategies and co-curricular activities significantly predicts first year undergraduate retention rate in University of Uyo. The effective engagement of undergraduates especially in their first year, guarantees high retention rate and very low attrition rate.

7. RECOMMENDATIONS

It is recommended based on the findings and conclusion of this study that:

1. Faculty use of active learning practices in their courses should carry some weight in the assessment of faculty teaching performance and promotion decisions. Student course rating instruments should be developed and should include items that ask students how frequently faculty use active learning practices in the course of teaching.
2. Student - faculty interaction acts as a mediator between student engagement and educational outcome gains and it has been established that the quality of interaction between faculty and students is instrumental to students' improvement. By this, faculties should create an atmosphere of positive and healthy student-faculty interactions. This goes a long way in guaranteeing student retention.
3. As student engagement is an integral component of a successful learning experience, it is essential for teaching personnel to select teaching strategies that consider the range of interactive engagement components, variability in purposes of engagement, and differences in students' learning abilities.
4. Universities should not only encourage student's involvement in co-curricular activities, but should also assist in providing opportunities for formalized involvement. Additionally, faculty should consider including participation in a co-curricular activity a part of their course content in order to increase undergraduates' participation.

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