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Jumoke Iyabode Oladele
University of Johannesburg, Johannesburg, South Africa

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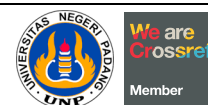
Learning preferences and entry mode as predictors of students academic performance in higher institutions of learning

Jumoke Iyabode Oladele♦

University of Johannesburg, South Africa

Abstract: The aim of the study was to examine entry mode and study ethics as predictors of student academic achievement among university undergraduates in a Nigerian University. The study employed the correlation research design in the quantitative approach. Purposive sampling technique was used to draw a sample of 154 students out of which 128 students consented and participated in the study. The instrument for the study was a researcher designed questionnaire which was piloted and subjected to a test of internal consistency, using Cronbach's alpha reliability analysis, and the overall reliability coefficients of 0.71 was obtained. The questionnaire was administered to the respondents through online mode using Google form. The data was gathered within a period of three (3) weeks. A WhatsApp research group was created through which the google form link was shared for effective dissemination. Data was collected was analyzed using descriptive statistic of frequency and percentage to present the respondents demographic information of respondents while mean and standard deviations was used to answer research questions The study hypothesis was tested using multiple regression using Statistical Package for Social Sciences (SPSS) 29.0. The study findings revealed that students learning preferences significantly predicted their academic achievement based on which a conclusion were made. The development of policies, programs, and initiatives aimed at improving educational outcomes and enhancing the overall quality of higher institutions of learning was recommended among others.

Key Words: Academic achievement; Entry mode; Learning preference; Students; Nigeria.

INTRODUCTION

Academic achievement is a multifaceted concept influenced by a variety of factors, such as the mode of entry and learning preferences of university undergraduates. These factors play a significant role in shaping a student's educational journey and, consequently, their success in higher education. Evaluating students' academic achievement is crucial for determining their status within a university. This process allows relevant stakeholders to accurately assess students across different courses after an academic session. Moreover, it serves as a valuable performance evaluation for students based on which improvements can be made. Academic performance in Nigerian university students is a multifaceted topic influenced by various factors such as individual effort, study habits, quality of education, and socioeconomic circumstances (Ribeiro et al., 2019). It is typically measured by assessing a student's Cummulative Grade Point Average in their courses, as well as their overall ability to meet academic requirements and excel in their studies.

Academic performance can be influenced by a wide range of factors, and it's important to recognize that these factors can interact and vary from one individual to another. One of the key

♦**Corresponding author:** Jumoke Iyabode Oladele. University of Johannesburg. Address: Kingsway Campus Auckland Park, Johannesburg, 2006, South Africa. Email: oladele.ji@unilorin.edu.ng

factors that can influence academic performance is motivation. Motivation as a psychological construct which denotes a strong desire to learn and succeed in academics can significantly impact performance (Shuaibu Muhammad et al., 2021; Thoka, 2020; Weiler & Murad, 2022). These studies revealed that motivated students tend to be more engaged, set goals, and work harder to achieve them. Another factor influencing students' academic performance is their study habits. Study habits (SH) is described as the process utilized by learners to acquire and gain a deeper understanding of a concept or term in an efficient manner through learning and firsthand experience (Agarwal & Gupta, 2020). SH was measured in terms of note taking, students' use of library, time allocation for study and students' academic performance in mathematics (Sakirudeen & Sanni, 2017). Another study revealed that interest, availability of learning materials and learning environments shapes studyents study habits. Students' study habits are greatly influenced by their interest in the subject matter, the availability of learning materials, and the quality of their learning environment (Cerna, & Pavliushchenko, 2015; Harackiewicz, 2016; Julius & Evans, 2015). Interest in a subject fuels motivation and drives the development of effective study habits. Considering some intricacies between study habits and academic performance, studies revealed that study habits contribute significantly in the development of knowledge and perceptual capacities (Rabia et al., 2017). Access to a variety of learning materials empowers students to customize their study approaches, fostering self-directed learning. A conducive learning environment enhances concentration and productivity, while a distracting one can hinder effective studying. Educational institutions, teachers, and parents must recognize the importance of these factors and work together to create an environment where students can thrive. By fostering interest, providing ample learning resources, and ensuring suitable learning environments, students are more likely to develop strong study habits that will serve them well throughout their academic journey and beyond.

The effects of gender and socio-economic status on study habits has been examined with opposing reports which leaves room for further research (Akwayamai, 2020; Khan, 2016; Numan & Hasan, 2017). However, effective study habits, such as time management, organization, and a conducive study environment, can positively influence academic achievement (Ayodele & Adebiyi, 2013; Sakirudeen & Sanni, 2017). Learning style is also regarded as impacting students' academic achievement, Considering that individuals have different learning styles (visual aids, auditory or kinesthetic learners), recognizing and using your preferred learning style is germane to enhancing students academics (Felder & Soloman, 2000; Looß, 2001; UNISA, n.d.). Another closely related factor is teacher's teaching style which speaks to the teaching methods and style of a teacher can impact a student's ability to grasp and retain information. A study examined learning styles and their relation to teaching styles revealing that a good match between a student's learning style and a teacher's teaching style can improve academic performance (Awla, 2014). According to Grey and DiLoreto (2016), prior knowledge has an indirect impact on academic achievement at the end of semester due to its influence on the quantity and type of new learning students need to undertake to reach a high level of mastery.

Peer pressure and the social environment can affect academic performance (Lukman, n.d.; Moldes et al., 2019). As such, the presence of a supportive social atmosphere has been associated with improving students' conduct, academic performance, and drive. Positive peer influence can encourage studying and learning, while negative influences can lead to distractions (Filade et al., 2019; Gebresilase & Zhao, 2023). Adolescence is believed to be the period of greatest vulnerability to peer pressure, during which the desire to be popular or fit in is felt most acutely (Povey et al., 2022). Adolescents may be more likely to give in to such pressure and engage in behaviors that can have long-term effects (Filade et al., 2019). Coping with peer pressure also requires family support. A supportive family environment can make a significant difference in a student's academic success (Dhull & Beniwal, 2017; Gebresilase & Zhao, 2023). This support can include help with homework, encouragement, and access to educational resources. Also, personal factors like family issues, relationship problems, or life events can have a significant impact on a student's ability to concentrate and perform well academically. Proper nutrition which is also a prerogative of parenting is essential for cognitive function. The effects of a range of health behaviours and indicators on academic achievement in university students have previously been established, for example, excessive alcohol use, sleep deprivation, and poor mental health status have all been shown to be detrimental to

academic achievement. To fill this gap, a study revealed that balanced diet can enhance concentration and memory, while a poor diet can lead to sluggishness and reduced cognitive performance (Burrows et al., 2017; Caldera & Thompson, 2022).

Cultural and societal expectations, as well as stereotypes, can affect a student's self-esteem and performance, particularly in diverse environments (Bayar & Karaduman, 2021; Bell, 2014; Lizama Portillo, 2023). Students from lower-income backgrounds may face more obstacles in terms of access to educational resources, tutoring, and extracurricular activities. As such, students from low-socio-economic backgrounds face difficulty focusing on their academic achievement due to competing pressures from a variety of stressors, or lack the social and/or cultural capital for achievement (Basurto, 2019; Dukhan et al., 2012; Vadivel et al., 2023). Availability of educational resources, such as textbooks, technology, and libraries, can impact academic performance (Okongo et al., 2015). Therefore, students with limited access to these resources may face challenges in their studies (Savasci & Tomul, 2013). Other factors are the classroom environment, including class size, discipline, and teacher-student interactions, can affect a student's ability to focus and learn and extracurricular activities. Participation in extracurricular activities can have both positive and negative effects on academic performance. Balancing these activities with schoolwork is important. It's important to recognize that these factors are interconnected, and addressing one factor may positively impact others. Moreover, academic performance is a complex and individualized outcome, and various combinations of these factors can affect students differently. Sanger (2020) stressed that educators in diverse contexts consider a pedagogically valuable process necessary to proactively anticipate and incorporate students' heterogeneous backgrounds, abilities, and interests into teaching and course design. Identifying and addressing specific challenges can be the first step toward improving academic achievements of students.

Learning preferences is regarded as a significant factors that have been identified as potential predictors of academic performance (Chick, 2010). In higher institutions of learning, understanding the factors that influence students' academic performance is crucial for optimizing educational outcomes. Learning preferences, also known as learning styles, refer to the individual's preferred way of processing and acquiring information. While various models and theories have been proposed to describe learning preferences, the most recognized ones are visual, auditory, and kinesthetic learning styles. Understanding and catering to students' learning preferences can enhance their engagement and improve their academic performance. Visual learners prefer to process information through visual aids and imagery. They benefit from visual representations such as diagrams, charts, graphs, and videos. Visual learners tend to remember and understand information better when it is presented in a visual format. For example, a visual learner studying biology may find it helpful to use flowcharts or diagrams to depict biological processes or structures. Auditory learners, on the other hand, prefer to process information through sound and verbal communication. They learn best through listening, discussing, and participating in auditory activities. These learners may benefit from lectures, group discussions, and audio recordings. For instance, an auditory learner studying literature might find it effective to participate in book clubs or engage in class discussions to reinforce their understanding of literary concepts. Kinesthetic learners have a preference for physical experiences and hands-on activities. They learn best by engaging in practical tasks, manipulating objects, and experiencing the learning material directly. Kinesthetic learners benefit from interactive exercises, simulations, and experiments. For instance, a kinesthetic learner studying physics may find it helpful to conduct physics experiments or engage in activities that involve physical movements to grasp abstract concepts.

A pilot study revealed that learning preferences can be student, group, practice, instruction or online-based (Kirk, 2021). These categorizations can be driven by experiential learning. Experiential learning is a learning approach that emphasizes hands-on, practical experiences as a primary means of gaining knowledge, skills, and understanding. This method of learning contrasts with traditional classroom-based or theoretical instruction. Instead of relying solely on lectures, textbooks, and rote memorization, experiential learning encourages students to actively engage with the subject matter through direct experiences, reflection, and analysis. Experiential learning is used in various educational settings, from elementary schools to higher education, as well as in professional training and development. It's a valuable approach for teaching a wide range of subjects and skills, as it often leads to a deeper and more lasting understanding of the material. David Kolb's experiential learning

theory is one of the best known educational theories in higher education (Kolb and Fry 1975, Kolb 1984) and is frequently cited in the literature involving higher education. Fielding (1984) and Robotham (1995) report that since the publication of his seminal Experiential Learning in 1984, Kolb's ideas have had an increasing impact on the work of teachers and trainers, particularly those involved with students of 16 years and upwards. The salient question for this study is, "How does Kolb's experiential learning theory enhance student achievement?" Relevant stakeholders in higher education should engage in reflective practice as it facilitates experiential learn through the process of teaching and facilitating student learning. Developing reflective practice means developing ways of reviewing our own teaching so that it becomes a routine and a process by which we might continuously develop. Kolb developed a theory of experiential learning that can give us a useful model by which to develop our practice. This is called The Kolb Cycle, The Learning Cycle or The Experiential Learning Cycle. The cycle comprises four different stages of learning from experience and can be entered at any point, but all stages must be followed in sequence for successful learning to take place. The Learning Cycle suggests that it is not sufficient to have an experience to learn. It is necessary to reflect on the experience to generalize and formulate concepts which can then be applied to new situations. This learning must then be tested out in new situations. The learner must make the link between the theory and action by planning, acting out, reflecting, and relating it back to the theory. While some learning style categories focus only on the environmental aspects of learning (auditory, visual, kinesthetic, and tactile), Kolb's learning styles include perception and processing. According to Kolb, learners perceive and process information in a continuum from concrete experience, reflective observation, abstract conceptualization, and active experimentation.

Concrete/Reflective/Abstract/Active: From this continuum, Kolb developed four learning styles: Diverger, Assimilator, Converger, and Accommodator. Learners generally prefer one of the four styles above the others. Although Kolb thought of these learning styles as a continuum that one moves through over time, usually people come to prefer, and rely on, one style above the others. And it is these main styles that instructors need to be aware of when creating instructional materials.

Accommodators - (Concrete experience/Active experimenter): these students are motivated by the question, "What would happen if I did this?" They look for significance in the learning experience and consider what they can do, as well as what others have done previously. These learners are good with complexity and are able to see relationships among aspects of a system. Effective teaching methods for an Accommodators revolves around anything that encourages independent discovery is probably the most desirable, active participants in their learning and instructors working with this type of student might expect devil's advocate type questions, such as "What if?" and "Why not?"

Assimilator - (Abstract conceptualization/Reflective observer): these students are motivated to answer the question, "What is there to know?" They like accurate, organized delivery of information and they tend to respect the knowledge of the expert. They aren't that comfortable randomly exploring a system and they like to get the right answer to the problem. Instructional methods that suit Assimilators include lecture method (or video/audio presentation): followed by a demonstration, exploration of a subject in a lab, following a prepared tutorial (which they will probably stick to quite closely) and for which answers should be provided. Worthy of note is that these learners are perhaps less instructor intensive than some other learning styles. They will carefully follow prepared exercises.

Convergers - (Abstract conceptualization/Active experimenter): These students are motivated to discover the relevancy or the "how" of a situation. Application and usefulness of information is increased by understanding detailed information about the system's operation. Instructional methods with convergers should be interactive, not passive while exploring computer-assisted instruction. Also, problem sets or workbooks can be provided for students to explore.

Divergers (Reflective observer/Concrete experience): These students are motivated to discover the relevancy or "why" of a situation. They like to reason from concrete, specific information and to explore what a system has to offer, and they prefer to have information presented to them in a detailed, systematic, reasoned manner. Instructional methods that suit Divergers include lecture method (focusing on specifics such as the strengths, weaknesses and uses of a system) supported with hands-on exploration of a system. The instructor would be best to mingle with the students, answering questions and making suggestions. Ready reference guides provide handy, organized summaries for this kind of learner

Despite the variation in categories, the fundamental idea behind learning styles is the same: that each of us has a specific learning style (sometimes called a "preference"), and we learn best when information is presented to us in this style. For example, visual learners would learn any subject matter best if given graphically or through other kinds of visual images, kinesthetic learners would learn more effectively if they could involve bodily movements in the learning process, and so on. The message given to instructors is that "optimal instruction requires diagnosing individuals' learning styles and tailoring instruction accordingly" (Pashler, et al., 2009).

In Nigeria, the Joint Admission and Matriculation Board (JAMB) and the University are saddled with the responsibility of admitting students into university courses each year. In this process students are allocated courses of their choice on meeting the requirements, or be assigned another course in which they have the requirement. Minimum UTME points requirements exist for each university, and only students having the prescribed points and grades in specific subjects are eligible to join a particular course of the university (Mikailu, 2023). Students also access university education through the first-year mode (starting from 100 level) or direct entry mode (starting from 200 level) (Emaikwu, 2012; Joe et al., 2014). While individual studies have examined the influence of learning preferences or entry qualifications on academic achievement, there is a gap in research exploring how these factors jointly contribute to students' academic success. Understanding the combined effect of learning preferences and entry qualifications can provide valuable insights into designing tailored educational approaches and admission strategies that optimize students' academic performance. This study attempts to close the information gap and offer a more thorough understanding of their combined influence on students' academic success by examining the interaction between learning preferences and entry requirements. Furthermore, the need to improve educational procedures in higher institutions is another factor contributing to the research problem. Educational stakeholders can create strategies to better help students with a variety of learning needs and backgrounds by examining the importance of learning preferences and admission qualifications as predictors of academic performance. This information can be used to develop teaching strategies, curricula, and admissions procedures that consider each student's unique preferences and enhance their chances of academic success.

The purpose of this study is to investigate the relationship between learning preferences and entry mode as predictors of students' academic performance in higher institutions of learning. By examining the combined effects of these factors, the study aims to contribute to the existing knowledge and provide valuable insights into how educational institutions can enhance student support and optimize academic outcomes. Specifically, the study seeks to: (1) Identify entry mode of students' into higher institutions of learning. (2) To explore the learning preferences of students in higher institutions of learning. (3) Examine the academic performance of students in higher institutions of learning. (4) To examine if learning preferences and entry mode predict students' academic performance in higher institutions of learning.

Based on the research objectives, the following research questions were formulated:
1. What are the entry modes of students into higher institutions of learning?
2. What are the learning preferences of students in higher institutions of learning?
3. How do students perform academically in higher institutions?
4. Do learning preferences and entry qualifications significantly predict students' academic performance in higher institutions?
   Research Hypothesis
   H01: Learning preferences and entry mode do not significantly predict students' performance in higher institutions of learning.

METHOD

The study employed the correlation research design in the quantitative approach. This type of design is appropriate for establishing relationship and determining the strength of such relationships. It helps to understand the complex relationships between two or more variables. It helps to establish the extent to which self - motivation and study ethics predicts the academic performance in the higher

institution of learning. The method is appropriate for the study since it enables the research to determine the extent to which the study variables predict students' academic performance.

Participants

This study was carried out with students in a Nigerian public institution offering regular programmes in North-Central Nigeria. The study population were students enrolled in the faculty of Education, while the target population were students in the final year. The sample of the study was drawn purposively to include students who have had enough stay and established CGPA in the university.

Sampling Procedures

A research assistant who was conversant with the study population group was recruited to facilitate the WhatsApp Group creation and adding research participants who consent to participate in the study. Going by this procedure, one hundred and fifty-four responses were recruited and added to the group. After adding the participants to the research group, information on the research was shared on the group and all questions were addresse.

Materials and Apparatus

The instrument for the study was a researcher designed questionnaire which was piloted to establish validity and reliability. The responses from the items were subjected to a test of internal consistency, using Cronbach's alpha reliability analysis, and the reliability coefficients of 0.71 was obtained through which the instrument was judges reliable. The validated questionnaire was administered to the respondents through online mode using Google form. The survey was shared through the created WhatsApp group for effective dissemination. Periodic follow-ups were done by the researcher and assistant to ensure proper sensitization for engagement. The data collection period lasted for 3 weeks. Of the One hundred and fifty-four recruited participants, one hundred and twenty-eight successfully completed and submitted thier responses. This connotes a collation rate of 87.4% based on which the analysis was carried out.

Data Analysis

Data was collected was analyzed using descriptive and inferential statistics. To answer the research questions, descriptive statistics of frequency/percentage mean/standard deviations was employed while the study hypothesis was tested at the 0.05 level of significance with hierarchical regression statistics using Statistical Package for Social Sciences (SPSS) 29.0. To ensure the ethical conduct of this research, study participants were fully informed of the purpose and action-based approach of the research. Also, the data collection process was explained fully to the study participants. The researchers obtain informed consent from all parties involved in the research prior to implementing the research project and voluntary participation in the conducted surveys was ensured. The findings of this study are none-identity specific while also ensuring institutional non-disclosure.

Research Question One:

Table 1. Distribution of Participants by Mode of Entry

Entry Mode	Frequency	Percent
DE	10	7.8
UTME	118	92.2
Total	128	100.0

Table 1 shows that out of 128 students that participated in the study 10(7.8%) were Direct Entry students, that is those admitted from 299 level while 118(92.2%) were UTME students, that is those admitted from 100 level also known as JAMBites. This shows that most of the respondents were students who were admitted from 100 level.

Research Question Two:
Learning preferences were categorized as student, group, practice, instruction and online based. The resulting data was analysed using mean and standard deviation statistics as shown in Table 2.

Table 2. Students' Learning Preferences

Learning Preferences	N	Mean	Std. Deviation
Student Based	128	27.7109	4.26698
Group Based	128	16.7187	2.61111
Practice Based	128	17.1016	2.27219
Instruction Based	128	33.7734	3.76309
Online Based	128	17.3750	2.13704

Table 3, the mean and standard deviation of students' learning preferences were Student Based: 27.7109(4.26698), Group Based: 16.7187 (2.61111), Practice Based: 17.1016(2.27219), Instruction Based: 33.7734(2.13704), Online Based: 17.3750 (2.13704). This showed that most of the students who participated in the study mostly preferred the Instruction Based approach for learning.

Research Question Three:
Responses on the role of students' CGPA were analyzed using mean and standard deviation as shown in Table 3.

Table 3. Academic Performance of University Undergraduates Using Their CGPA

	Minimum	Maximum	Mean	Std. Deviation
CGPA	1.80	5.00	3.5468	.56238

As shown in Table 3, with a mean CGPA of 3.55 and standard deviation of 0.61 (both approximated to two decimal places). This result connotes that students had an above average academic performance. One research hypothesis was tested for the study at 0.05 level of statistical significance.

Hypothesis One: Mode of Entry and Learning Preferences do not significantly predict students' academic performance in higher institutions of learning. To test study hypothesis, it was subjected to Hierarchical Regression inferential statistical analysis as shown in Table 4a.

Table 4a. Hierarchical Regression Model Summary of Mode of Entry and Learning Preferences of students' academic performance in higher institutions of learning

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.062a	.004	-.004	.56350
2	.220b	.049	.033	.55291
3	.222c	.049	.026	.55491
4	.271d	.073	.043	.55011
5	.272e	.074	.036	.55222
6	.308f	.095	.050	.54809

a. Predictors: (Constant), MOE
b. Predictors: (Constant), MOE, Student Based

c. Predictors: (Constant), MOE, Student Based, Group Based
d. Predictors: (Constant), MOE, Student Based, Group Based, Practice Based

e. Predictors: (Constant), MOE, Student Based, Group Based, Practice Based, Instruction Based

f. Predictors: (Constant), MOE, Student Based, Group Based, Practice Based, Instruction Based, Online Based
g. Dependent Variable: CGPA

As shown in the Model Summary presented in Table 4a, there are model 1 to 6. The R-Square value in Model 1 implies that mode of entry (MOE) produced 0.4% of the variance in the academic performance of university undergraduates. When adding the student-based learning preference (which was under control in Model 1) to MOE as revealed in Model 2, the two variables (i.e. MOE and student based learning preference) jointly Predicted 3.3% of the variance in the academic performance of university undergraduates. Further adding the group-based learning preference in Model 3 (i.e. MOE, Student Based, Group Based) together predicted 2.6% of the academic performance of university undergraduates. Going further to add the practice-based learning preference in Model 4 (i.e. MOE, Student Based, Group Based, Practice-based) together predicted 4.3% of the academic performance of university undergraduates. Another step was further made to add the instruction-based learning preference in Model 5 (i.e. MOE, Student Based, Group Based, Practice-based, Instruction-based) together predicted 3.6% of the academic performance of university undergraduates. Lastly, the online-based learning preference in Model 6 (i.e. MOE, Student Based, Group Based, Practice-based, Instruction-based, online-based) together predicted 5.0% of the academic performance of university undergraduates. This implies that the integration of these learning preferences together (Model 6) contributed more to the academic performance of university undergraduates than Model 1 to 5.

However, significant predictions of coping strategies were established using ANOVA Statistics, and the results are shown in Table 4b.

Table 4b. Hierarchical Regression Analysis of Mode of Entry and Learning Preferences of students' academic performance in higher institutions of learning

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.157	1	.157	.494	.484b
	Residual	40.009	126	.318		
	Total	40.166	127			
2	Regression	1.953	2	.976	3.194	.044c
	Residual	38.213	125	.306		
	Total	40.166	127			
3	Regression	1.984	3	.661	2.147	.098d
	Residual	38.182	124	.308		
	Total	40.166	127			
4	Regression	2.943	4	.736	2.432	.051e
	Residual	37.222	123	.303		
	Total	40.166	127			
5	Regression	2.963	5	.593	1.943	.092f
	Residual	37.203	122	.305		
	Total	40.166	127			
6	Regression	3.817	6	.636	2.118	.054g
	Residual	36.348	121	.300		
	Total	40.166	127			

a. Dependent Variable: CGPA
b. Predictors: (Constant), MOE
c. Predictors: (Constant), MOE, Student Based
d. Predictors: (Constant), MOE, Student Based, Group Based
e. Predictors: (Constant), MOE, Student Based, Group Based, Practice Based
f. Predictors: (Constant), MOE, Student Based, Group Based, Practice Based, Instruction Based
g. Predictors: (Constant), MOE, Student Based, Group Based, Practice Based, Instruction Based, Online Based

As revealed in Table 4b, Models 2 (MOE, Student Based), 4 (MOE, Student Based, Group Based, Practice Based) and 6 (MOE, Student Based, Group Based, Practice Based, Instruction Based, Online Based) were significant ($p<0.05$). However, Model 6 statistically produced highest significant value followed by Model 4 and Model 2. Hence, the combination of Mode of Entry and learning

preferences (Student Based, Group Based, Practice Based, Instruction Based, and Online Based) significantly predicted academic performance of university undergraduates.

To determine the contribution of each of the learning preferences (i.e. Student Based, Group Based, Practice Based, Instruction Based, and Online Based) to the dependent variable (students' academic performance), Beta Weight was calculated and the outputs are shown in Table 4c. Unstandardized coefficients indicate how much the dependent variable varies with an independent variable while other independent variables are held constant.

Table 4c. Relative Contributions of Entry and Learning Preferences of students' academic performance in higher institutions of learning

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.667	.178		20.579	<.001
	MOE	-.130	.186	-.062	-.703	.484
2	(Constant)	2.846	.381		7.462	<.001
	MOE	-.082	.183	-.039	-.448	.655
	Student Based	.028	.012	.213	2.424	.017
3	(Constant)	2.918	.445		6.550	<.001
	MOE	-.084	.184	-.040	-.456	.649
	Student Based	.029	.012	.222	2.385	.019
	Group Based	-.006	.020	-.029	-.317	.752
4	(Constant)	2.572	.482		5.332	<.001
	MOE	-.150	.186	-.072	-.808	.420
	Student Based	.025	.012	.187	1.979	.050
	Group Based	-.018	.021	-.084	-.865	.388
	Practice Based	.043	.024	.173	1.781	.077
5	(Constant)	2.517	.532		4.730	<.001
	MOE	-.146	.188	-.070	-.778	.438
	Student Based	.024	.013	.182	1.886	.062
	Group Based	-.019	.021	-.089	-.894	.373
	Practice Based	.039	.028	.159	1.417	.159
	Instruction Based	.004	.017	.029	.252	.802
6	(Constant)	2.286	.546		4.190	<.001
	MOE	-.195	.188	-.093	-1.033	.304
	Student Based	.023	.013	.176	1.833	.069
	Group Based	-.022	.021	-.102	-1.030	.305
	Practice Based	.032	.028	.131	1.161	.248
	Instruction Based	-.006	.018	-.039	-.325	.746
	Online Based	.046	.028	.176	1.687	.094

a. Dependent Variable: CGPA

Table 4c shows the relative contribution of each of the learning preferences. All learning preferences were significant ($p<0.05$) in *Models* 2, 4 and *6*. In *Model 2*, the student-based learning preference had the higher predictive power with beta weight 0.213. In Model 4, the student-based learning preference also had the higher predictive power with beta weight 0.187 while the student and

online-based learning preferences both had equal weights of 0.176 on the academic performance of university undergraduates. It could therefore be inferred from the hierarchical *Model 2. 4* and 6 that:

i.   students who preferred the student-based learning preference had the predictive powers (values) on their academic performance (beta weights in *Model 2*) predictive powers of learning preference on their academic performance was significant.

ii. students who preferred the student, group, and practice-based learning preferences had the predictive powers (values) on their academic performance (beta weights in *Model 4*), the predictive powers of learning preference on their academic performance upsurge and

iii. students who preferred the student, group, practice, instruction and online-based learning preferences had the predictive powers (values) on their academic performance (beta weights in *Model 3*), the predictive powers of learning preference on their academic performance were within the same range.

The findings of this study revealed that most of the respondents were students who were admitted from 100 level. This might be due to the admission pressure on universities leading to admission to capacity at the 100 level entry point into the university (Okoroma, 2008). This study aligns with the findings of (Emaikwu, 2012) which revealed that more students were admitted from 100 level than those admitted from 200 level. Findings of this study also revealed that the instruction-based learning approach was mostly preference by students (Rogowsky, 2020). Also, the more learning preferences employed by students, the better their academic performance in higher institutions of learning. Recognizing and accommodating diverse learning preferences is a valuable approach in higher education, as it can enhance the learning experience and make education more inclusive.

This finding is important considering that teaching a student with their preferred learning style results in optimal learning (Emaikwu, 2012). Another study which construed learning styles in terms of visual, auditory or kinesthetic learners) revealed that recognizing and using their preferred learning style is germane to enhancing students' academics (Felder & Soloman, 2000). This finding suggests that when instruction aligns with a student's learning preferences, it can positively impact academic achievement. In this context, the authors explains that visual learners may perform better with visual aids, while kinesthetic learners may benefit from hands-on activities. In this study, the categorization of learning preferences was student, group, practice, instruction and online which is activity-based. This approach is hoped to provide practical relevance to the pedagogic processes of teaching and learning through which implementation actions can be taken to improve students' academic achievement within the active school year.

Furthermore, findings of this study revealed that students had an above avearge academic performance. This finding is a divergence from a study revealed that students performance was optimal in earlier levels of study (Ezenwoke et al., 2018). This finding of this may be due to students' self-motivation to learn which invariably leads to success. Considering that academic achievements is a multifaceted concept that has a significant influence on the lives of students, educators, and institutions, studying this variable is important for meaningful and data-based decision making. Therefore, while academic achievement of students encompasses a wide range of variables, including grades, test scores, attendance, engagement, and overall educational achievement, the dynamics of academic performance are complex, influenced by various factors and exerting profound impacts on individuals and societies (Grey & DiLoreto, 2016).

The third finding of this study revealed that learning preferences and mode of entry significantly predicts academic performance with only the variable of learning preferences accounting for the prediction of students' academic performance. This finding aligns with that of Emaikwu (2012) and Maya et al. (2021) which revealed that learning preferences and academic achievement based on the mode of admission into the university do not have a significant relationship. However, another study revealed that graduates who were admitted through the Preliminary Programmes performed significantly better than their counterparts who were admitted through the UTME/PUTME (Joe et al., 2014). This evidence suggest that learning preferences can influence academic performance, the relationship is complex and not universally applicable to all students (Gamage, 2021). As such, it is important for educators and institutions to consider a variety of factors when designing educational experiences and supporting students to achieve their best academic outcomes. Additionally, students

themselves may need to adapt and develop flexibility in their learning styles and approaches to succeed in different educational settings.

The study concluded that while entry mode of students is only instrumental to management students' enrollment into higher institutions of learning, learning preferences impacts their overall academic performance as more methods are being employed. Lecturers are therefore encouraged to employ multiple methods that will align with students learning styles for meaningful academic engagements. The insights gained from understanding the predictors of academic performance can guide the development of policies, programs, and initiatives aimed at improving educational outcomes and enhancing the overall quality of higher institutions of learning. It is hoped that the findings of this study will also inform instructional strategies, curriculum design, and pedagogical practices in higher institutions of learning. Understanding the impact of learning preferences on students' academic achievement allows educators to tailor their teaching methods to accommodate diverse learning styles, ultimately enhancing student engagement, understanding, and knowledge retention

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