

*Original Research Article*

# Modes of admission and academic performance in Nigerian Universities

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## Abstract

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With causal comparative ex-post facto design, this investigation comparatively analysed academic performance of graduates admitted through Unified Tertiary Matriculation Examination/Post Unified Tertiary Matriculation Examination (UTME/PUTME) and Preliminary Programmes (Certificate, Basic Studies and School of Science Laboratory Technology [SSLT]) in University of Port Harcourt. Nine research questions and hypotheses were postulated. A stratified random sampling technique was used to draw a sample of 1,200 from a population of 13,898 regular programmes graduates of 2009/2010 and 2010/2011 academic sessions from seven faculties. The Cumulative Grade Point Averages of the graduates were collected from the Exams and Records Office. While the first eight null hypotheses were tested with Independent Samples T-test, the ninth was tested with Two-way Analysis of Variance at 0.05 alpha. Results showed that graduates who were admitted through the Preliminary Programmes performed significantly better than their counterparts who were admitted through the UTME/PUTME in all the Faculties except in Agricultural Science and Engineering. A Comparison of the four modes of admission showed the Certificate Programme has produced graduates with the best academic performance, followed respectively by the Basic Studies, SSLT and UTME/PUTME programmes.

**Keywords:** Academic performance, Causal comparative ex-post facto design, Graduates, Modes of admission, Preliminary programmes, University of Port Harcourt, UTME/PUTME

## INTRODUCTION

The concept of academic performance is inevitable in any formal educational institution. It expresses the learning achievement of an individual or a group at the end of an academic programme. It is a criterion for ascertaining the capabilities of a student from which his potentials could be inferred. Academic performance is generally used to determine how well an individual is able to assimilate, retain, recall and communicate his knowledge of what has been learnt. This concept has close relationship in meaning with academic achievement and academic attainment. Knowles (1978:273) defines academic performance as "the demonstrated achievement of

learning as opposed to the potential for learning." It further defines achievement as "knowledge attained or skills developed in school subjects usually designed by test scores or marks assigned by the teacher or both." These definitions imply that academic performance is the observed and measured aspect of a student's mastery of skill(s) or subject content(s). It suggests that academic performance is different from the academic worth or academic potentials of a student. Academic performance is one of the three required aspects of a properly composed learning objective as noted in Singh (2010) and it denotes an expression of a learner's attainment in

properly stated behavioural objectives. Arasian (1997) viewed academic performance as an expression of one's achievement from school based instructions. A student's academic performance is usually measured in examinations or continuous assessment tests and could be expressed in various ways depending on what the scores will be used for. The various ways of reporting academic performance include percentages, quartiles, raw scores, transformed scores, or even as categorical variables such as Excellent, Very Good, First Class, Distinction, A1, B2, C4, F9, etc. The academic performance of a student is a function of many variables which could be classified into student, home, school, teacher, cultural and legal factors.

The University of Port Harcourt is a large federal institution with various types and categories of students. First, the students are classified into Regular and Part time Students. Second, its various categories of students include the Pre degree students (referred to as Preliminary Programme students in this study) which include Certificate, Basic Studies, School of Science Laboratory Technology (SSLT), and Diploma Programmes Students; the undergraduate students; the sandwich students; the Masters Degree students and the Doctoral Degree students. But the focus of this study is on the graduates of the regular first degree programmes. The researchers have observed that this group of students could further be categorised with respect to their academic performances (i.e., Cumulative Grade Point Averages – CGPAs) which has been graded into First Class (4.50-5.00), Second Class Upper (3.50-4.49), Second Class Lower (2.40-3.49), Third Class (1.50-2.39), Pass (1.00- 1.49), and Fail (0.00-0.99).

For a candidate to be admitted into the University of Port Harcourt to study any first degree programme, the person must have been subjected to serious academic scrutiny. Such a candidate is expected to have passed Senior Secondary Certificate Examination (SSCE) conducted by the West African Examination Council (WAEC) and/or National Examination Council (NECO) with at least five relevant O-Level subjects with a minimum of credit pass in each subject; must have got the minimum Unified Tertiary Matriculation Examination/Post Unified Tertiary Matriculation Examination (UTME/PUTME) scores as well as other requirements by the department into which the candidate is seeking admission. The UTME/PUTME is used interchangeably with University Matriculation Examination (UME) in the current work. It becomes a point of much concern that in spite of these rigorous screening exercises, many of the students still graduate with bad grades while some come out with good grades. This is despite the relentless efforts made by various stakeholders including the administration of the University to ensure excellent academic performance by fixing the variables that influence it. This suggests that the variations in the academic performances of the graduates

of the Institution are predominantly as a result of factors inherent in the students which could have been sorted out during the admission selection process.

Consequently, it has become necessary to investigate the various modes of admission into the Bachelors degree regular programmes of the university in order to select and admit only those students who are fit for such programmes. Hence, the efficiency of the admission process of a university might have an influence on the academic performance of her graduates. This view is in consonance with the findings of Adeyemi (2009) who embarked on a similar investigation in the University of Ado-Ekiti, Ondo State and came out with a result that the mode of entry significantly predicted the success in degree examinations of the Final Year Bachelor of Education Students.

Generally, there are three modes of entry through which a student may gain admission into Bachelor Degree Regular Programmes in universities in Nigeria as specified by the National Universities Commission (NUC). These include admission through Direct Entry, admission through the UTME/PUTME, and admission through the Preliminary Programmes which comprises Certificate Programme, Basic Studies Programme and School of Science Laboratory Technology (SSLT) Programme. The focus of this study is on admissions into the university through UTME/PUTME that covers 70% and Preliminary Programmes which covers 30% of total intake as the University of Port Harcourt does not adopt admission through Direct Entry.

The UTME is developed, organised and administered by the Joint Admission and Matriculation Board (JAMB) that was established to regularize the intake of students into universities to solve the problem of multiple admissions given to some candidates at the expense of others. A candidate must have met the O'Level requirements as well as the JAMB and University Department cut-off points to gain admission into university through this mode. It is customary for JAMB to fix its cut-off point which is still subject to upward review by the University Departments. In the UTME- JAMB, each candidate is required to write examinations in three UTME subjects relevant to the candidate's area of specialization in addition to a forth subject that is compulsory for all candidates to be examined on, the Use of English Language. After this, the successful candidates are subjected to the Post Unified Tertiary Matriculation Examinations (PUTME) which is developed and administered by each university. The PUTME examination is presumed to be a set of standardized aptitude tests that should predict an individual's ability to study in a particular vocation. Prospective students usually pass through rigorous preparations to beat the cut-off mark due to the high level of competition amongst candidates. Those who succeed in meeting these requirements are expected to adapt and perform favourably in their respective courses of study.

However, the predictive validity coefficients of the UTME and PUTME are still a point of argument. Research works show that validity of UTME and PUTME varies among universities and even among departments of the same university. Obioma and Salau (2007) discovered that the public examinations in Nigeria, including the UTME, have weak positive relationship each with students' academic achievements in the universities. Ifedili and Ifedili (2010) observed that candidates who performed poorly in the UME performed better in their first year results in the universities. They further commented that "Since JAMB started its operations, individuals, corporate bodies and different levels of government have accused JAMB of massive corrupt practices". In view of the above discussion, admission of students through the UTME/PUTME may have either a positive or negative influence on their academic performance which is measured as Cumulative Grade Point Averages (CGPAs).

Basic Studies Programme is one of the Preliminary Programmes run by the University of Port Harcourt and from which successful candidates secure admission into the regular First Degree programme of the university. It "is designed to grant opportunities to those who do not meet the requirements for admission into 100-Level in science-based programmes (Agric, Economics, Engineering, Geography, Health Sciences, and Science) another opportunity to do so" (University of Port Harcourt, 2010). The Brochure further stated that the initial aim for establishing this programme was to promote even development in the country by providing education opportunities to candidates from the Educationally Less Developed States (ELDS) to gain admission into first degree programmes. Presently however, admission is open to all eligible candidates. The Brochure clearly stated that the reason for providing this opportunity to the non ELDS students is to correct "The serious problems of public examinations, which frustrate many good students, but benefit the lazy and indolent per exam malpractice". In the Basic Studies programme, lecturers handle the teaching while the examinations are organised and administered by the Basic Studies Examination Committee in conjunction with the University Wide Examination Committee. Students are imbued with the culture of hard work and honesty and are seriously prohibited from engaging in any form of examination malpractice which is prevalent in many public and local examinations. This positive attitude and other virtues inculcated into the students might have an impact on their academic performance when they finally gain admission into their respective first degree programmes.

The Certificate programme is another Preliminary Programme run by the University of Port Harcourt from which successful candidates are admitted into some of the regular first degree programmes of the institution. Just like the Basic Studies Programme, the Certificate programme was established with the objective of

providing a one academic year programme to candidates who will take up a four-year degree programme in education or Humanities on successful completion of the preparatory year. The major distinguishing point is that the Basic Studies Programme is designed to prepare students for science-based courses while the Certificate programme is designed to prepare students for courses in Education and Humanities. Hence, it is being run in only two Faculties: Education and Humanities. Successful candidates, on completion of the one year preparatory programme, are granted admissions into Bachelor Degree programmes contingent upon meeting the O'Level requirements which include five Credit Passes in relevant subjects inclusive of English Language and Mathematics in not more than two sittings. This preparatory programme is very intensive and rigorous. It also enables students to get acquainted with the university environment, lectures, lecturers' teaching methodologies as well as their personalities. Specifically, the Certificate Programme exposes the candidates to many of the courses that are done in the main four-year degree regular programme. Hence, admission through this means might have a significant influence on the students' academic performance and might even prepare them to stand a chance of performing better than their colleagues who came in through the UTME/PUTME. This view is in line with the findings of Okpilike (2011) on mode of admission of Education Undergraduates and their academic performance in a Nigerian University. The study revealed that Education Undergraduates who gained admission through Pre-Degree programme performed significantly better than their counterparts who were admitted through the UTME/PUTME in all courses combined together.

The third Preliminary Programme in the University of Port Harcourt is the School of Science Laboratory Technology (SSLT) Programme formerly known as the Institute of Science Laboratory Technology (ISLT) in the Faculty of Science. It was established in 1978 with the primary aim of serving as a preparatory programme for the Nigerian Institute of Science Laboratory Technology (NISLT) qualifying examinations (University of Port Harcourt, 2011). It further stated that this programme was later upgraded to award National Diploma (ND) and Higher National Diploma (HND) in 1998/1999 session. The SSLT programmes leads to admission into first degree programmes for the award of Bachelor of Technology Degree in Science Laboratory Technology with Specialization in any of its seven units which include Biochemistry and Chemistry Technology; Biomedical Technology; Geology and Mining Technology; Industrial Chemistry and Petrochemical Technology; Microbiology Technology; Physics with Electronic Technology; and Physics with Production Technology. This programme avails students who could not meet up with the UTME/PUTME cut-off points the opportunity to gain admission into degree programmes. It also subjects

students to intensive lectures and other rigorous academic exercises which prepare them not only for further studies but also to become practicing technologists needed in the industries. This extensive and intensive programme could be a major factor influencing the academic performance of these students when they finally gain admissions into their Bachelor Degree Programmes.

Over the years, academic performance as it relates to mode of admission has attracted the attention of many researchers. Apantaku (2003) conducted a comparative study of the academic performance of university students admitted through the pre-degree and the University Matriculation Examination programmes. The findings revealed that students admitted through the Pre-Degree programme performed better than their counterparts. Irtwange and Agbe (2010) conducted a comparative analysis on the academic achievements of UTME and Ex-remedial Students using University of Agriculture, Makurdi as a study area. The findings proved that the Ex-remedial Students had higher, consistent and predictable academic achievements than the University Matriculation Examination (UME) students. Each of these studies cited above is focused on comparing the academic achievements of students admitted through the UTME and a single Pre-degree programme only. No investigations, to the best of the knowledge of the researchers, have been conducted on comparing the academic achievements of the graduates admitted through the UTME and all the preliminary programmes in the University of Port Harcourt. It is against this background that the researchers conceived the idea of conducting a comparative analysis of the academic performance of graduates admitted through UTME/PUTME and Preliminary Programmes in the University of Port Harcourt.

The problem of the current investigation is: which of the modes of admission - UME/PUME, Certificate Programme, Basic Studies Programme and SSLT Programme has yielded better academic performance of graduates? In this study, the researchers suspected that the university might be having faulty admission policies which make it possible for many unprepared and unqualified candidates to be admitted into the institution. There are four modes of admission into the first degree programmes in the University of Port Harcourt that are being considered in this study and only a maximum of two modes are applicable to each academic programme. These are admissions through the UTME/PUTME, and the Preliminary programmes which is Basic Studies Programme, Certificate Programme, or the School of Science Laboratory Technology (SSLT) Programme in strict adherence to admissions requirements specified by the National Universities Commission (NUC). All First Degree regular students are exposed to the same learning condition without discriminations by either the government or the school authorities. All students have

equal access to the same lecturers, instructional materials, accommodation facilities, infrastructural facilities, and so on; but while some students make good grades (Second Class Upper and above) on graduation, many others graduate with poor grades (Second Class Lower and below). This is suggestive that the variations in the academic performances of graduates might be a resultant effect of the selection process during the admission of students into their respective programmes.

It is disheartening that despite the rigorous screening exercises that candidates are made to pass through during admission as well as efforts made by both the governments (Ololube, Egbezor and Kpolovie, 2008) and the university administration to improve the standard of education as measured by academic performance of the graduates in the University of Port Harcourt, many of them still come out with Second Class Lower and below. For instance, an analysis of some selected faculty results, based on information documented in the University of Port Harcourt 25th Convocation Order of Proceedings (University of Port Harcourt, 2009), shows that Graduates of 2007/2008 session made the following results: in the Department of History and Diplomatic Studies, 9.2% of the 65 Graduates came out with Second Class Upper, 69.2% graduated with Second Class Lower, while 21.6% came out with Third Class; in the Department of Human Anatomy, 10.3% of the 184 Graduates came out with Second Class Upper, 59.9% graduated with Second Class Lower, while 28.8% came out with Third Class and Pass; in the Department of Curriculum Studies and Educational Technology, 3.6% of the 137 Graduates came out with Second Class Upper, 49.6% graduated with Second Class Lower, while 46.8% came out with Third Class and Pass; in the Department of Educational Psychology, Guidance and Counselling, 20.8% of the 68 Graduates of Counselling Psychology came out with Second Class Upper, 63.2% graduated with Second Class Lower, while 16.0% came out with Third Class. These disparities in results are applicable to almost all the departments in the institution. Just very few graduates made First Class that is consistently in short supply; and in great demand in the labour-market. The unpalatable effects associated with the problem of poor academic performance includes unemployment which results in frustration, engagement in criminal activities, political crisis, hooliganism, and drug addiction.

It is the purpose of this study to compare the academic performance of graduates admitted through the UME/PUME and the Preliminary Programmes in the University of Port Harcourt. Specifically, this study was aimed at proving data based answers to the nine research questions. Research Questions

1. To what extent do the academic performance of graduates, of 2009/2010 and 2010/2011 academic sessions combined who were admitted through UTME/PUTME and Certificate Programme differ in the Faculty of Education?

2. To what extent do the academic performance of graduates of 2009/2010 and 2010/2011 academic sessions combined who were admitted through UTME/PUTME and Certificate Programme differ in the Faculty of Humanities?
3. To what extent do the academic performance of graduates of 2009/2010 and 2010/2011 academic sessions combined who were admitted through UTME/PUTME and Basic Studies Programme differ in the Faculty of Social Sciences?
4. To what extent do the academic performance of graduates of 2009/2010 and 2010/2011 academic sessions combined who were admitted through UTME/PUTME and Basic Studies Programme differ in the College of Health sciences?
5. To what extent do the academic performance of graduates of 2009/2010 and 2010/2011 academic sessions combined who were admitted through UTME/PUTME and Basic Studies Programme differ in the Faculty of Agricultural Sciences?
6. To what extent do the academic performance of graduates of 2009/2010 and 2010/2011 academic sessions combined who were admitted through UTME/PUTME and SSLT Programme in the Faculty of Engineering differ?
7. To what extent do the academic performance of graduates of 2009/2010 and 2010/2011 academic sessions combined who were admitted through UTME/PUTME and SSLT Programme in the Faculty of Science differ?
8. To what extent do the academic performance of graduates, of 2009/2010 and 2010/2011 academic sessions combined, who were admitted through UTME/PUTME and their counterparts admitted through the Preliminary Programmes differ?
9. To what extent do the academic performance of graduates who were admitted through the four modes of admission (UTME/PUTME, Certificate, Basic Studies and SSLT) differ?

### Hypotheses Postulation

Nine corresponding null hypotheses were postulated and tested at 0.05 alpha for tenability as specified in Kpolovie (2011c).

1. There is no significant difference between the CGPAs of graduates who were admitted through UTME/PUTME and Certificate Programme in the Faculty of Education.
2. There is no significant difference between the CGPAs of graduates who were admitted through UTME/PUTME and Certificate Programme in the Faculty of Humanities.
3. There is no significant difference between the CGPAs of graduates who were admitted through UTME/PUTME and Basic Studies Programme in the Faculty of Social Sciences.
4. There is no significant difference between the CGPAs of graduates who were admitted through UTME/PUTME

and Basic Studies Programme in the College of Health Sciences.

5. There is no significant difference between the CGPAs of graduates who were admitted through UTME/PUTME and Basic Studies Programme in the Faculty of Agricultural Sciences.
6. There is no significant difference between the CGPAs of graduates who were admitted through UTME/PUTME and SSLT Programme in the Faculty of Engineering.
7. There is no significant difference between the CGPAs of graduates who were admitted through UME/PUME and SSLT Programme in the Faculty of Sciences.
8. There is no significant difference between the CGPAs of graduates who were admitted through UME/PUME and their counterparts admitted through the Preliminary Programmes.
9. Statistically significant difference does not exist in the academic performance of graduates who were admitted through the four modes of admission (UTME/PUTME, Certificate, Basic Studies and SSLT).

### Review of Literature

The concept of academic performance is a vital tool in the measurement of the academic achievements of students during or on completion of a programme. It is a sine qua non to any formal educational institution. The word academic is normally used in relation to a college, university or any institution of higher learning. It pertains to scholarly human activities conducted in a formal educational environment. The New International Webster Comprehensive Dictionary of English Language (2004) defines performance as "the act of carrying out an action, executing or doing it". Performance as explained in Murphy and Moon (1989) refers to what is actually done under existing circumstances that subsumes the process of accessing and utilizing the structure of knowledge and abilities and a host of affective, motivational and stylistic factors that influence the ultimate responses. This portrays that performance cuts across the various domains of an individual namely affective, psychomotor and cognitive domains.

Academic performance is therefore a yard stick for ascertaining the capabilities of a student from which his inherent or unrevealed abilities could be inferred. Academic performance is generally used to determine how well an individual is able to assimilate, retain, recall and communicate his/her knowledge of what has been learnt. This concept has close relationship in meaning with academic achievement and academic attainment. Knowles (1978) asserts that academic performance is the demonstrated achievement of learning as opposed to the potential for learning. It is knowledge attained or skills developed in school subjects usually designated by scores in formal tests or examinations. Academic performance refers to the observed and measured aspect

**Table 1.** Percentage of total annual budgetary allocation to education in Nigeria

Year	%	Year	%	Year	%	Year	%
1960	6.02	1976	8.71	1992	3.86	2008	13.00
1961	6.15	1977	3.12	1993	5.62	2009	6.54
1962	5.19	1978	11.44	1994	7.13	2010	6.40
1963	3.43	1979	3.70	1995	7.20	2011	1.69
1964	3.65	1980	4.95	1996	12.32	2012	10.00
1965	3.57	1981	6.45	1997	17.59	2013	8.70
1966	4.23	1982	8.09	1998	10.27		
1967	4.88	1983	4.04	1999	11.12		
1968	2.84	1984	4.49	2000	8.36		
1969	2.20	1985	3.79	2001	7.00		
1970	0.69	1986	2.69	2002	5.90		
1971	0.53	1987	1.93	2003	1.83		
1972	0.62	1988	2.40	2004	10.5		
1973	0.88	1989	3.55	2005	9.30		
1974	2.96	1990	2.83	2006	11.00		
1975	4.57	1991	1.09	2007	8.09		

of a student's mastery of skill(s) or subject content(s). It suggests that academic performance is different from the academic potentials of an individual. It is the measured relatively permanent changes in an individual's behaviour due to experiences acquired. A student's academic performance is usually measured by teacher-made tests or standardized tests which in most cases are referred to as external examinations in Nigeria. Ashton (1990:569) comments that:

Academic attainment as measured by the examinations of the traditional kind involves most of the capacity to express oneself in a written form. It requires the capacity to retain propositional knowledge, to select from such knowledge appropriately in response to a specified request and to do so without reference to possible sources of information. The capacity to memorize and organise materials is particularly important...

This conception views academic performance in the context of learning and being able to express what has been learnt in a written form without room for examination malpractice of any sort.

Lawton and Gordon (1993) posited that it is quite possible to have a high ability coupled with a low attainment, achievement or performance. Hence, academic performance is the demonstrated achievement of learning as opposed to the potential for learning (Knowles, 1978). In the same vein, Lawton and Gordon further commented that attainment is the present (i.e., achieved) learning of a particular skill or knowledge demonstrated by evidence of some kind, including the evidence of teacher assessment. Academic performance is the achievement of a student in terms of aggregate obtained in a test or examination in specific subjects that cover a given academic programme.

The academic performance of a student may dependent to an extent on many variables which include education funding (Kpolovie and Obilor, 2013), the student, home, school, teacher, cultural and policy or legal factors. Since learning is an integral aspect and a major determinant of academic performance, it therefore follows that the factors influencing learning in an individual may have overt or covert effects on the individual's academic performance. The economic or financial aspect of the school environment may largely determine academic performance. This is true because it influences the acquisition of instructional or teaching aids as well as the provision of infrastructural facilities and basic amenities in the school environment. The Punch (June 17, 2011) reported that the decline in the Nigerian educational system is as a result of poor funding. Though education funding determines both the quality and quantity of both human and material resources to enhance learning, "the average percentage of total annual budgetary allocation to education in Nigeria from 1960 to date is self-destructively low as 5.72" as illustrated in Table 1 (Kpolovie, 2014).

A hungry or malnourished student may find it hard to maximally concentrate in the class and optimally learn. In line with this, Kpolovie (2011a; Siminialayi, 2014) demonstrated the effect of brain boosting food and supplements on learning that individuals cannot live well and function maximally, mentally or cognitively without eating food that is rich in Omega-3 fatty acids (such as salmon, mackerel, soybeans, pumpkin seeds and walnuts) and antioxidants (such as blueberries, mangoes, watermelon and dark green vegetables) as they enhance acquisition and retention of knowledge (Kpolovie, 2012a). He further

stated that the symptoms of Omega-3 fatty acid deficiency include fatigue, poor memory, dry skin, heart problem, mood swings, depression, poor circulation and attention deficit, cognitive decline, dementia and Alzheimer's disease. All these go a long way to explain the effects of nutrition on an individual's academic performance. Performance is high when right nutrition is adequate and vice versa.

The school administration also plays a significant role in determining students' academic performances (Ololube and Kpolovie, 2012). The administrators decide the use of funds, acquisition of instructional materials and teaching aids, employment of both the quantity and quality of teachers, in truth, all materials and human resources that enter into the school premises. The poor academic performance may also be manifestations of failed policies. Solutions lie in correcting these policies, in addition to initiating new ones that would make the education system work more effectively and efficiently for the benefit of the country.

Admission refers to the acceptance of a candidate, on meeting some basic criteria, to study a programme at any level of an educational institution. For the purpose of this study, admission is limited to the acceptance of a candidate who has met the required criteria to study a specific Bachelors Degree programme in the university. Modes of admission, otherwise known as entry modes refer to the various means through which a candidate may be admitted into a first degree programme. It is the various channels, routes or ways through which a candidate can be admitted into a university to run a degree programme. In sum, admission mode therefore refers to the various means through which a prospective candidate could be accepted and given the opportunity to run a programme of his choice or another related programme as deemed fit by the department, faculty or admission authority concerned. In Nigeria, there are various modes of admissions into bachelor degree programmes. These include admissions through the UTME/PUTME, Direct Entry, and the various Non-Degree programmes which have been referred to as Preliminary Studies Programmes in this study.

Before the advent of the UTME programme, Nigerian universities had autonomy to admit students. Each school conducted its local entrance examinations. The evil effects of such independent entrance examinations included tests with varying difficulty, formats, durations, and items specifications. Also, this autonomy gave rise to some privileged students gaining multiple admissions at the expense of the less financially privileged ones who could not afford to travel to various schools in different parts of the country to write examinations (Kpolovie, Ololube and Ekwebelem, 2011; Kpolovie, 2012a). The entrance examinations of each of the universities were of varying quality and level of difficulty and that it was possible for one candidate to gain admission into five universities in a year. The admission process seemed to

be wasteful to an extent because candidates who had the financial means purchased many forms from different universities; and the university officials were expected to travel to different parts of the country to conduct examinations.

The UTME (formerly University Matriculation Examination – UME) is a set of standardized objective test (Great School Partnership, 2013; Kaplan and Saccuzzo, 2005) of multiple-choice type. A candidate is expected to write tests in three UTME subjects relevant to his course of study with a compulsory Use of English Language making a total of four subjects. In the words of Kpolovie (2014a:66), "the multiple-choice form type of test is composed of a stem, a key, and distractors. The key and the distractors are collectively known as the options. The stem states the problem in form of question or incomplete sentence (information) that serves as introductory part of each item while the correct response is the key, the misleading or incorrect responses are the distractors to a particular item." He further discussed the several types of the multiple-choice item to include the Correct-Answer, Best-Answer, Incomplete-Statement, Negative, Incomplete-Alternatives, Combined-Response, Context-Determined and Matching Forms. Each of the multiple-choice forms could conveniently be used to measure the various domains of an individual. The multiple-choice type of test is actually the very best in assessment of cognitive traits as they meet the comprehensive taxonomy of 43 rules of multiple-choice item writing (Joint Committee on Standards for Educational Evaluation, 2003; Kpolovie 2014a; Haladyna and Downing, 1989; Haladyna, Downing and Rodriguez, 2002) and the code of fair testing practices in education (Joint Committee on Testing Practices, 2004).

Burd (2012) indicated several merits of the multiple choice test formats that tend to cover the following:

- I. Allowance for more objective scoring than the free response tests.
- II. High potential for diagnostic usage.
- III. Sampling of wide areas of contents and objectives of instructions.
- IV. Favouring of both the high and low language ability groups of respondents.
- V. Relative higher reliability are than essay test
- VI. Possibility of relatively higher validity compared with the essay type
- VII. Allows for easy scoring even with computer and other scoring machines as well as use of unskilled personnel.

In spite of these advantages, multiple-choice test has some demerits which according to test critics like Hoffmann (1962) are that the items are difficult to construct especially when the aim is to test high level cognitive objectives. They are uneconomical in terms of time and material on the part of the examiner. Also, they do not allow free responses so as to test the ability to organise, integrate and synthesise ideas; hence, they do

not promote originality. They could encourage guessing, poor study habits and rote memorisation.

To overcome the problems of multiple admission and various entrance examinations with different levels of qualities as well as different psychometric properties of the questions, the Joint Admissions and Matriculations Board (JAMB) was established in 1978 as a central body, charged with the responsibility of screening for admission of students into Nigerian universities. It is JAMB that conducts the UTME for fair and objective admissions of candidates into tertiary institutions of learning in Nigeria.

A candidate aspiring to run a bachelors degree programme in a Nigerian University could also be admitted through certificates obtained from any of the non-degree programmes as specified by the National University Commission (NUC). Admission of candidates into the regular degree programmes also demand that each of such candidates must have at least attempted the UTME and made up to certain acceptable score. The Federal Republic of Nigeria (2005) through her commission, the NUC, defined the non-degree programmes from which admissions of successful candidates could be made into the first degree regular programmes to generally include "all courses of study that prepare students either for low-to-mid-level careers or more frequently for admission into undergraduate programmes at different levels which are sometimes termed sub-degree programmes. These include Diploma and Certificate programmes, Pre-Degree Programmes and Remedial Programmes."

The Commission specified that Diploma or Certificate Programmes are courses of study that provide for the candidates the requisite skills and knowledge for work at a lower level than an undergraduate degree would. In addition, the diploma and certificate programmes were established to prepare students for further studies and employment. It was aimed at improving the proficiency of the students who are already employed. Students admitted through diploma and certificate programmes in a university should normally not be more than 30% of the total admission in a year. The curriculum for these programmes are planned and developed by the NUC in line with the aims, objectives or philosophy of the university as well as the need of the country. Full-time diploma programmes are expected to last for a minimum of two academic sessions and a maximum of three academic sessions while part-time diploma programmes last for a minimum of three and a maximum of four academic sessions. Certificate programmes have duration of minimum of one academic session and a maximum of two academic sessions. The admissions requirement for the diploma programmes is a minimum of five credit passes in relevant O-level subjects, while certificate programmes require at least, three credit passes in the relevant O-level subject. Students undergoing these programmes must pass all the prescribed courses before graduation within the

specified duration for each programme.

The university sub-degree programmes include Pre-degree Programmes. These programmes as stated in the NUC guidelines are courses of study run by a university that provide candidates with advanced level training in order to qualify them for entry into undergraduate degree programmes in a university; hence, pre-degree programmes include preliminary or basic studies. A candidate who possesses pre-degree qualifications may be admitted at the 100 or 200 level depending on the qualification. In line with the NUC guidelines, the existing curricula of pre-degree programmes in Nigerian universities are harmonized to meet Benchmark Minimum Academic Standard (BMAS) for both preliminary and basic studies (Federal Republic of Nigeria 2005). While the basic studies programme runs for a minimum of two academic sessions, the preliminary studies programmes run for one full academic session. Admission requirement is a minimum of five O-level subjects at credit passes in relevant areas. For a student to graduate, he or she is required to have passed with a minimum CGPA of 2.5 or an average of 40%. Just like other university programmes, the Continuous Assessment Tests constitute 30% of the scores while examination is 70%. Basic Studies programmes are located in the universities or any other authorised institution but the preliminary studies programmes may only be located in the university administering the programme. On completion of the Basic Studies Programme, a candidate with a good result may be granted Direct Entry through JAMB to 200 level of degree programme in the relevant discipline. A minimum requirement of BMAS is also maintained as in the Diploma Programme. This covers prescribed standard in lecture rooms, theatre, library, laboratories, studios, and so on. Concerning the academic progression of candidates who have successfully completed the preliminary studies, the candidates may be admitted into 100 level of a relevant university programme contingent upon clearance from JAMB with respect to some basic requirements. The minimum qualification for the teaching staff of the Pre-degree programme is Masters Degree in relevant disciplines.

The third non-degree programme to be considered in this study is the remedial programme. "A remedial programme is a course of study aimed at remedying O'Level deficiencies of candidates for entry to degree programmes. This is the prime mission of the secondary level studies" (Federal Republic of Nigeria, 2005). It further stipulates that universities should normally have no business with remedial studies programmes. Also the resource provision for remedial programmes must satisfy the requirements for the establishment of programmes for O'Level institutions as laid down by the relevant statutory bodies such as Federal Ministry of Education and Secondary Education Board among others.

The foregoing discussion on non-degree programmes, according to the National Universities



Commission, has specified the various modes through which academic progressions could be made into the undergraduate degree programmes in the Nigerian universities. However, not all non-degree programmes are applicable to this study which is conducted in the University of Port Harcourt. Hence, those ones which are applicable have been referred to as Preliminary Programmes for the purpose of this study. They include Basic Studies Programme, Certificate Programme and School of Science Laboratory Technology Programme. By implication, Preliminary Studies, as used by the National Universities Commission, is different from Preliminary Programmes as used in this study.

The non-degree programme is designed to be an intensive coaching curriculum that aims at preparing senior secondary school graduates for university education and for employment as the case may be. It is common knowledge that students carry over some deficiencies from secondary schools which inhibit their performances and individual self-development. Concerning this situation, Obafemi Awolowo University (2011) noted that the pre-degree programme was initiated to help deal with the setbacks that often accompany such circumstances by providing students with a good head-start that will facilitate superior academic performance in the university. There is therefore a great need for empirically certifying whether the students admitted through the pre-degree programmes have superior performances than their counterparts admitted through the UTME that is conducted by JAMB.

The use of UTME as an admission criterion may significantly determine students' academic performance in the universities or other institutions of higher learning. While some are of the conception that the UTME conducted by JAMB is a poor determinant and has no relationship with academic performance in the university; others maintain that it has a negative relationship with students' academic performance; still some others maintain that it positively correlates with students' academic performance in their higher studies. Afolabi, Mabayoje, Togun and Oyadeyi (2007) held the opinion that several studies conducted point towards the fact that the Universities Matriculation Examinations (UME), now termed UTME, scores taken at face value are highly unreliable predictors of future academic performance. This statement is not made out of a myopic experience, rather it is a comment made based on information gathered from several universities located at various parts of the country. In other words, it is not peculiar to a particular university, not even a specific geo-political zone of the country, but it covers the entire university community in the country. In other words, the UME has little or no importance as a means of admission into degree programmes in Nigerian tertiary institutions and therefore has a poor relationship with the students' academic performance in the various programmes.

Omirin (2006) commented on the various views of people about the UME. He stated thus,

There is a conception that the Universities Matriculation Examination (UME) candidates are superior to the pre-degree candidates. Some people felt that it is because candidates cannot perform well in Universities Matriculation Examination (UME) conducted by Joint Admission and Matriculation Board (JAMB), hence they opted for pre-degree programme. Others have the belief that even the UME results are not reliable and valid, that at times, candidates have score(s) in subject(s) they did not even sit for in UME and such fiction results are used for admission. There are others who believe that some UME candidates made some high scores through examination malpractices.

It could be deduced from the first opinion of the above citation that the candidates that are successful in JAMB are the academically bright students who will also perform well in their future examinations in the universities. Conversely, the pre-degree students are the less academically sound ones who look for the cheaper ways of gaining admission and will later perform badly in their future examinations the universities. The second opinion as contained above is a case against the UME pointing out that the UME scores are invalid and unreliable. If a test does not possess validity and reliability that are the basic psychometric properties, then it is of no importance for use as an instrument for selection and placement. It therefore follows that the UME is a bad instrument for measurement and will likely yield a misleading university academic performance which is expressed as CGPAs. One of the issues that undermine the validity of every test is examination malpractice. According to the statement above, the UME is occasionally bedevilled by this academic menace. There is yet another threat to the validity and reliability of test results which is the issue of mistakes. This occurs in Nigerian public examinations especially JAMB scores. It is a serious weak point since a candidate would even receive scores for subjects that he did not sit for as seen in the quotation above. Based on this comment, it is very possible that some of the results of the actual candidates who sat for the UME may also be fictitious and will not predict significantly a candidate's future academic performance in the university. It is little wonder that at the moment, admission of candidates who passed UTME is to an extent dependent on the scores that they obtain in Post Unified Tertiary Matriculation Examination (PUTME) that is conducted using Computer Based Testing (CBT) by the individual university to which they are seeking to be admitted (Kpolovie, Iderima and Ololube, 2013).

Perhaps, the most shocking explanation of the role of UTME or UME in the Nigerian educational system is drastic reduction of the number of candidates who are granted admission into tertiary institutions of learning. An investigation that Kpolovie (2014) analyzed the number of candidates seeking admission into universities,

**Table 2.** Candidates who wrote UTME/UME from 2003 to 2012 who are denied admissions into tertiary institutions of learning in Nigeria

Description	Total number	Percentage
Candidates who took UTME from 2003-2012 (10 years)	11,910,926	100
Candidates admitted into universities	1,672,788	14.01
Candidates admitted into polytechnics and colleges of education	880,380	7.39
Candidates admitted into NOUN	110,276	0.93
Grand Total of candidates admitted into tertiary institutions of learning	2,663,444	22.36
Grand Total of candidates denied admission into tertiary learning institutions	9,247,482	77.64

polytechnics, colleges of education, and National Open University of Nigeria by writing the UTME/UME over a period of ten years (2003 to 2012) revealed that while only an insignificant 22.36% of them pass UTME and are given admission, a phenomenological 77.64% of the candidates fail the examination and are denied admission as tabulated herein. (Table 2)

It is most appalling to know that the Nigerian educational system does not have any provision made to take care of the 77.64% of the candidates who fail UTME/UME and are deprived of admission into higher institutions of learning. The whole scenario in Nigeria is totally different from what happens in the United States where there is easy access to tertiary education for all those who truly seek it. Perhaps, there are just too few tertiary institutions of learning and admission opportunities in Nigeria. In the United States for instance, California State alone on annual basis has (Alamiyeseigha and Kpolovie, 2013):

1. 10 University of California that provide automatic admission for the best 12.5% (more than 234,000) of students who complete secondary school education .
2. 23 California State Universities that provide admission opportunities for the next best 33.3% of students who complete secondary school education.
3. 112 California Community Colleges that offer admission opportunities for the next 54% of secondary school graduates.
4. In addition to these, there are federal universities (the Naval Postgraduate School, the Defences Language Institute, and the Defences Language Institute Foreign Language Centre) each of which provides admission opportunities.
5. 75 nonprofits private universities and colleges.
6. 170 private for-profit universities and colleges (UCSB, 2013).

In like manner, Colorado State alone has 495 universities and colleges, each of which provides wide admission opportunities (Kpolovie, 2014; Alamiyeseigha and Kpolovie, 2013).

In the main, even the 77.64% of youths that UTME/

UME prevented from gaining access to tertiary education are those with a minimum of 5 Credit Passes that are inclusive of English Language and Mathematics in the Senior Secondary Certificate Examinations (SSCE) that constitute covert preconditions for writing UTME/UME. The SSCE is another related obstruction to tertiary education access. For instance, in four years alone (from 2009 to 2011), as much as 4,120,926 (69.41%) candidates who wrote the West African Examination Council (WAEC) SSCE failed the examination by not scoring up to 5 Credit Passes that are inclusive of Mathematics and English Language, and therefore not qualified indirectly to write UTME for admission into tertiary institutions of learning (Kpolovie, 2014). Again, there is no provision of remedial programme for those who failed the SSCE to study and make up in the educational system (Table 3).

Ifedili and Ifedili (2010) also expressed that the public is of the view that the UME conducted by JAMB has a poor relationship with students' academic performances in university and other institutions of higher learning. This is implied in their statement that, "Since JAMB started its operation, individuals, corporate bodies and different levels of government have accused JAMB of massive corrupt practices". Consequent upon the public opinion, they further asserted that JAMB results are unreliable and invalid as implied in their argument that:

Many students now cheat with their smuggled-in mobile phones despite the fact that it was illegal to bring them into the examination hall. The quality of students admitted by JAMB was deteriorating yearly despite their high scores in JAMB. Many parents register their children for JAMB earlier than educational policy had planned for them".

Still on the issues undermining the predictive validity of the JAMB scores on the students' academic performance, Ifedili and Ifedili (2010) posited that the former President of the Federal Republic of Nigeria (Olusegun Obasanjo) accused JAMB of corrupt practices which has affected the standard of education in Nigeria. This has prevented the UTME from being a valid and

**Table 3.** Candidates who passed (scored 5 Credits Passes inclusive of Mathematics and English Language) in WAEC – SSCE from 2009 to 2012 in Nigeria

Year of examination	Candidates who wrote the exam	Candidates who Passed	Percentage of Pass	Candidates who Failed	Percentage of Failure
2009	1,373,009	356,981	6.01	1,016,028	17.11
2010	1,351,557	337,071	5.68	1,014,486	17.09
2011	1,540,250	472,906	7.97	1,067,344	17.98
2012	1,672,224	649,156	10.93	1,023,068	17.23
Total	5,937,040	1,816,114	30.59	4,120,926	69.41

reliable yard stick for admissions into tertiary institutions of learning. The heightened corruption led to the recommendation of further screening of candidates which is known as the Post Unified Tertiary Matriculation Examination (PUTME) in Nigeria.

The Vice Chancellor of the University of Ilorin, Professor Kolade Ayorinde is of the opinion that the UTME has little or no significance in predicting the academic performance of students in their university programmes. He asseverated that:

The outcome of the screening justified that the pre-admission screening, called the Post UTME screening, is necessary, if candidates that scored 280 out of 400 or more in the Unified Tertiary Matriculation Examination (UTME) could score below 50 percent in the screening as experience had shown, it clearly indicates that UTME is not enough (Ayorinde, 2010).

The Statement above clearly indicates that it is erroneous to use the UTME scores for admission since their validity and reliability are questionable. In other words, the UTME scores cannot be used to predict students' academic performances in their degree programmes.

The Punch Editorial of October 17, 2005 expressed an unreserved dissatisfaction with the validity and reliability of the UTME in predicting the academic performance of university students thus:

*It has also been scientifically proved that there is a weak linkage between candidates' performance in JAMB's UTME and their eventual academic aptitude as undergraduates...One major plan of the overhauling is the need to scrap JAMB, allow universities the independence to conduct their admissions while the NUC whose regulatory role is to set standards should ensure that the universities conform to the broad national guidelines of university education. That it has become necessary to screen candidates that have passed through UTME is a clear indication that JAMB has outlived its usefulness. The National Assembly should therefore scrap JAMB by passing the University Autonomy Bill without further delay.*

An investigation conducted by Evrora (2009) examined the relationship between the mode of entry and degree performance of students in Delta State University, Abraka. Two research questions were raised and one hypothesis was tested in the study. A sample of 300

students made up of 100 pre-degree entry, 100 Universities Matriculation Examination entry and 100 Direct entry, was drawn from the population using disproportional stratified random sampling technique. The student data file and a check-list were the instruments used for data collection. The simple percentage, frequency count and chi-square test statistics were used to analyse the data. The result at 0.05 level of confidence revealed that there is no significant relationship between mode of entry into the university and students academic performance. This implies that the performance of students in Delta State University has no bearing on entry modes. This study is similar to the present study because both compare the probable influence of admission modes on the academic performance of students in university. However, the reviewed study is different from the present one because the former was carried out in Delta State University using students who were still undergraduates while the present work is done in the University of Port Harcourt using the degree results of those who have already graduated from the University. Also, this reviewed study used nonparametric statistics (Chi-X<sup>2</sup>) whereas the present study made use of parametric inferential statistics (Independent Samples T-Test and Two-Way ANOVA) for the data analyses.

Another similar study was done in the Delta State University by Ogbemor (2012) to ascertain which of the two modes of entry (JAMB and Continuing Education) into the university is more effective in ensuring that the best students are admitted. It was guided by six research hypotheses. Data were collected using first year first semester examination in five subject areas English Language, Modern Mathematics, Additional Mathematics, Physics and Accounts. Analysis of data was done with t-test statistics. Results indicated that the JAMB mode of selection was more effective compared to the Continuing Education mode. The results did not corroborate those by Evrora (2009) and some other people.

Afolabi, Mabayoje, Togun and Oyadeyi (2007) investigated the effect of combining (by equal weighting) 'O level scores in Physics, Chemistry, Biology and Mathematics with the University Matriculation Examinations (UME) Scores on the performance indices of 100 and 200 levels Physiology scores in Ogbomosho Medical School. The population of 294 students admitted into the Department, in two sessions combined,

constituted the sample of the study. The following data were extracted from their files: age, sex, O level grades in physics Chemistry, Biology and Mathematics; the UME/JAMB Scores, the CGPA at the end of 100 level; the 200 level physiology scores and pass or fail in the 200 level comprehensive examination. Pearson Product Moment correlation statistics was used to establish the relationship between the UME scores and their CGPAs of 100 and 200 levels Physiology students. The results show weak and not significant positive relationships of 0.26 and 0.14 between the UME scores and CGPA respectively for 100 and 200 levels undergraduates. While the researchers who carried out the study used Physiology students' scores in 200 level and the CGPA in 100 level, the present researcher used the final year CGPAs of the students in the various Faculties of the University of Port Harcourt. Also, while the researchers used Pearson Product Moment Correlation Statistic to analyse their data, the present researchers adopted Independent T-test and Two-way Analysis of Variance.

Edoyan (2002) conducted a study on the UME scores as predictors of students' academic achievements in the Faculty of Engineering in the Rivers State University of Science and Technology. He selected a sample of 574 using a purposive sampling technique. The data on the students' academic achievements (CGPAs) as well as their JAMB scores of 1999/2000 session were got from the school's Admissions and Exams/Records Units. Chi-X2 statistical technique was adopted and results were tested at 0.05 level of significance. Ex post facto design was used, the results yielded (i) no significant difference between the proportion of high and low UME scorers that had high CGPA; (ii) significant difference between the proportion of high and low UME scorers that had low CGPA; and (iii) no significant difference between the proportion of high and low UME scorers that had extra year of study. Edoyan compared the UME scores and the CGPAs of students admitted through UME only in one faculty (Faculty of Engineering) using Chi-X2 for data analysis, the present researchers compared the CGPAs of those admitted through the UME as well as other pre-degree programmes for various faculties in the University of Port Harcourt with Independent samples T-test and Two-way Analysis of Variance in data analyses.

Otokunefor (2011) conducted a comparative study on the academic performance of Micro Biology students at the end of year one admitted through the UME/PUME and those admitted through the University Basic Studies Programme in the University of Port Harcourt. The admission credentials of 148 students admitted into the department of Microbiology, University of Port Harcourt in the 2009/2010 session were examined. They included 27 candidates admitted through the University's Basic Studies Programme and 121 candidates selected through the UME and PUME screening exercise. The UME scores, PUME scores and the first year Grade Point Average (GPA) of all candidates were analyzed for any

possible relationship. Candidates admitted through the Basic Studies Programme performed better in the first year of university with a majority (59.26%) attaining GPA range of 2-2.99 compared to 1-1.99 for the majority (52.89%) admitted through the UME/PUME exercises. The scores obtained in the UME showed inverse correlation with those obtained in the PUME screening exercise ( $R=-0.1942$ ) and with the GPA obtained at the end of the first year of study ( $R=-0.208$ ).

Adeyemi (2009) investigated the mode of entry as a predictor of success in Final Year Bachelors Degree examination in Universities of Ado-Ekiti in Ekiti State and Adekunle Ajasin University in Ondo States. The study population comprised all the 1810 final year students in the two universities offering education courses. Out of this population, 760 students with CGPAs of 3.50 and above in 2007/2008 academic year in the two universities were selected for the study. The instrument used was an inventory while the data collected were analysed using percentages, correlation matrix and multiple regressions. The finding revealed that the pre-degree mode of entry is the best predictor of success in the final year bachelor of education degree in the universities.

Apantaku (2003) conducted a comparative study on the performance of university students admitted through Pre-degree and UME programmes in the University of Agriculture, Abeokuta, Ogun, State. The main objective of the study was to ascertain if there is any relationship between mode of admission (pre-degree or UME and academic performance of university students at their first year (100 level). The subjects of the study included 516 first year students who gained admission through pre-degree programme and 244 students that gained admission through UME. These represented all the first year students of the College of Natural Science at the University for three sessions (1997 - 2000). The research design used was the correlational design, hence Pearson Product Moment statistic was used for data analysis. Results indicated that students who were admitted through pre-degree performed better than those admitted through UME. The gender of the students (admitted through pre-degree and UME) also influences their academic performance.

Okpilike (2011) investigated the mode of admission of education undergraduates and their academic performance in a Nigerian University, using the students' scores in the two semesters of the 2006/2007 academic session. A representative stratified random sample consisting of 600 first year education undergraduates was used. This number was made up of 300 subjects who were admitted on their successful completion of the pre-degree programme and another 300 who were admitted through the joint admission and matriculation examination. Data collected were the students' scores in both education courses and teaching subjects in the first year's two semesters of the 2006/2007 academic session. Collected data were subjected to a Independent

samples T-test analysis. Results at 0.05 level of confidence revealed that education undergraduates who gained admission through the Pre-Degree programme performed significantly better than their counterparts who were admitted through the Joint Admission and Matriculation Examination in all courses combined in education. It was concluded that most UME candidates unlike their Pre-Degree counterparts are not good materials for degree programmes.

## RESEARCH METHODOLOGY

Causal Comparative Ex-post Facto Design was employed in this investigation. Ex-post facto research design was defined by Kpolovie (2010) as a methodological approach for eliciting possible or probable antecedents of events that have occurred already and which cannot be subjected to the direct rigorous manipulation and control by the researcher. He explained that there are two types of Ex-post facto research designs namely the correlated and the causal comparative. To be specific, the design adopted in this study is the Causal Comparative Ex-post Facto which is used for discovery of possible causes of a phenomenon that is under investigation through empirical comparison of a group of subjects who possess the trait. A causal comparative ex-post facto research design is a most suitable design used to investigate cause(s) of a phenomenon by comparing a retrospective experimental group and a retrospective control group. The experimental group was not intentionally subjected to treatment by the researcher; rather the investigator merely collects data from the subjects after the incident had occurred (Kpolovie, 2010).

The present study adopts Causal Comparative Ex-post Facto design because the researchers collected data from both the retrospective experimental groups and the retrospective control groups and compared the groups to find out the possible effects of mode of admission on academic performance. In other words, the group means of academic performance of graduates admitted through the UME/PUME (now UTME/PUTME) were compared with the group means of academic performance of graduates admitted through the Preliminary Programmes across seven faculties in the University of Port Harcourt. They are the:

- Faculty of Education
- Faculty of Humanities
- Faculty of Social Sciences
- College of Health Sciences
- Faculty of Agricultural Sciences
- Faculty of Engineering
- Faculty of Science

The population for this study consists of all the Bachelors Degree graduates of 2009/2010 and 2010/2011 sessions from the seven Faculties of the

University of Port Harcourt who were admitted either through any of the Preliminary Programmes or through the UTME/PUTME. Also these Faculties must have graduated some first degree students as at the period of time covered by this study. By implication, only the Faculties of Management Sciences, Pharmacy and Dentistry are excluded from the ten faculties of the University of Port Harcourt covered by the study. The population for this study is 13,898 persons who graduated from University of Port Harcourt in 2009/2010 and 2010/2011 sessions. The source of the population size is the University of Port Harcourt Exams and Records Office.

A sample of 1200 graduates was drawn via stratified proportional random sampling technique for the study. This was done by determining the population of graduates of 2009/2010 and 2010/2011 academic sessions in each of the seven faculties and the number of those admitted through UTME/PUTME on the one hand and the Preliminary Programmes on the other hand. The population was first stratified with respect to faculties; further stratification was done in terms of the various modes of admission; and lastly, Table of Random Numbers was employed in drawing the sample.

This sample size of 1200 subjects is far above the recommended sample size of 370 which is graphically determined using Krejcie Morgan's graph for determination of suitable minimum sample size as documented in Kpolovie (2011: 34). He further explained that it is suitable when the probability sampling procedures are to be used with a chosen confidence level of 95 percent certainty of representativeness. The population is read on the x-axis while the sample size is on the y-axis. Hence the population of 13,898 was traced up to the curve and its ordinate point on the y-axis (i.e., sample axis) read 370 as shown in Figure 1

The instrument for data collection for the study was Results Profile Form. This was used to collect data on the UME (now UTME) scores and the University's Examinations/Tests scores that are expressed in terms of Cumulative Grade Point Averages (CGPAs). The UME has a maximum score of 400. A candidate is expected to sit for three relevant subjects plus a compulsory Use of English Language making it a total of four subjects each with a maximum score of 100. The maximum obtainable CGPA is 5.0. This score is the summary of a student's academic achievement from the first year of admission till the end of the final year, irrespective of the number of years required for completion of the programme. The CGPAs of the First Degree graduates of 2009/2010 and 2010/2011 sessions in the seven faculties were collected from the Exams and Records Unit of the University, using the Results Profile Form.

All the nine research questions were answered with mean and standard deviation. Similarly, there were nine null hypotheses that were tested at 0.05 level of significance, using Independent Samples T-Test for the

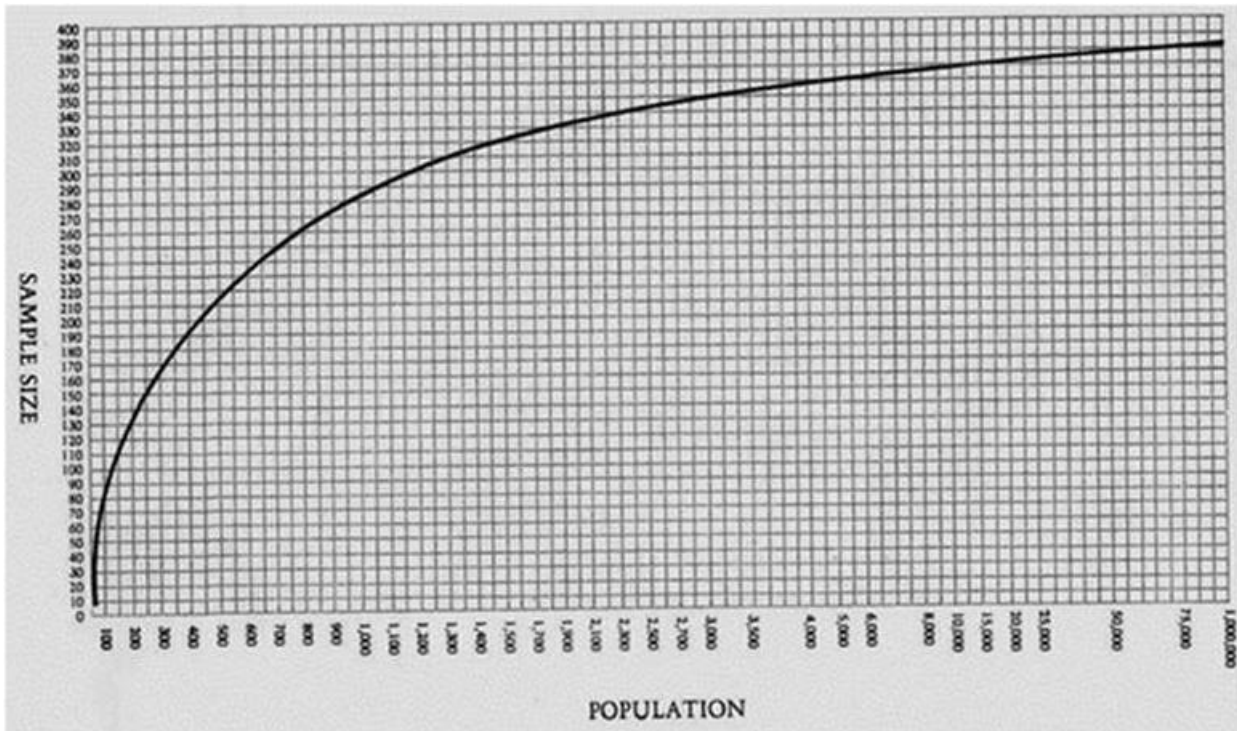


Figure 1. Determination of minimum sample size from population

first eight because there were two group means to be compared in each hypothesis in accordance with Kpolovie (2011:496) that “when two means of separate groups are to be compared, the most suitable statistical tool for the analysis is the Independent samples T-Test.” The ninth null hypothesis was tested with Two-way ANOVA which is “the most appropriate statistical test for comparison of more than two group means in order to ascertain both the main effects as well as the interaction effects of two or more independent variables on a dependent variable” (Kpolovie, 2011:599). The entire data analyses were done, using SPSS Version 21.

## RESULTS PRESENTATION

Answers to each research question and the parametric inferential statistical tests for the null hypotheses are aptly tabulated and briefly explained in this section. Table 4a shows that the graduates who were admitted through the UME/PUME in the Faculty of Education, University of Port Harcourt in 2009/2010 and 2010/2011 academic sessions that were used for this study are 187. The mean of their CGPAs is 2.8910 with a standard deviation of 0.48092. Their counterparts admitted through the Certificate Programme are 62 with a mean CGPA of 3.4768 and a standard deviation of 0.45558. This shows a difference in the means of the CGPAs of the graduates admitted through UME/PUME and those admitted

through Certificate Programmes in the Faculty of Education in favour of the later though significance of the difference is not yet known. Table 4b shows, for equal variances not assumed, a t-value of -8.652 with 109.499 df and a p value of 0.001. Since the p (Sig. 2-tailed) of 0.001 is less than the chosen alpha of 0.05. The null hypothesis of no significant difference between the CGPAs of graduates who were admitted through UME/PUME and Certificate Programme in the Faculty of Education in the University of Port Harcourt is rejected. In summary, the independent t-test is statistically significant as  $t(109.499) = -8.652, p < .05, 2\text{-tailed}$ . Mean of the CGPAs of graduates admitted through the Certificate Programmes is significantly higher than that of the graduates admitted through the UME/PUME.

Table 5a shows that the graduates who were admitted through the UME/PUME in the Faculty of Humanities, University of Port Harcourt in 2009/2010 and 2010/2011 academic sessions that were used for this study are 141. The mean of their CGPAs is 3.0038 with a standard deviation of 0.54714. Their counterparts admitted through the Certificate Programme are 50 with a mean CGPA of 3.2712 and a standard deviation of 0.66134. This shows a difference in the means of the CGPAs of the graduates admitted through UME/PUME and those admitted through Certificate Programmes in the Faculty of Humanities in favour of the later. Table 5b shows, for equal variances not assumed, a t-value of -2.565 with 74.145 df and a p value of 0.012. Since the p value (Sig.

**Table 4a.** Descriptive analysis for answering Research Question 1

	MODES	N	Mean	Std. Deviation	Std. Error Mean
CGPAs	UME/PUME	187	2.8910	.48092	.03517
	CERTIFICATE	62	3.4768	.45558	.05786

**Table 4b.** T-test analysis for testing null Hypothesis 1 (Ho:1)

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	T	Df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	Lower	Upper
CGPAs	Equal variances assumed	4.606	.033	-8.419	247	.000	-.58581	.06958	.72286	-.44877
	Equal variances not assumed			-8.652	109.499	.000	-.58581	.06771	.72000	-.45162

**Table 5a.** Descriptive analysis for answering Research Question 2

	MODE	N	Mean	Std. Deviation	Std. Error Mean
CGPAs	UME/PUME	141	3.0038	.54714	.04608
	CERTIFICATE	50	3.2712	.66134	.09353

**Table 5b.** T-test analysis for testing Ho:2

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	Lower	Upper
CGPAs	Equal variances assumed	4.065	.045	-2.807	189	.006	-.26744	.09529	-.45541	-.07948
	Equal variances not assumed			-2.565	74.145	.012	-.26744	.10426	-.47518	-.05970

2-tailed) of 0.012 is less than the alpha level of 0.05, the null hypothesis of no significant difference between the CGPAs of graduates who were admitted through UME/PUME and Certificate Programme in the Faculty of Humanities in the University of Port Harcourt is rejected. In summary, the independent t-test is statistically significant as  $t(74.145) = -2.565$ ,  $p < .05$ , 2-tailed in favour of Certificate Programmes.

Table 6a shows that the graduates who were admitted through the UME/PUME in the Faculty of Social Science in 2009/2010 and 2010/2011 academic sessions are 95.

The mean of their CGPAs is 2.9268 with a standard deviation of 0.46482. Their counterparts admitted through the Basic Programme are 49 with a mean CGPA of 3.2171 and a standard deviation of 0.54138. This shows a difference in the means of the CGPAs of the graduates admitted through UME/PUME and those admitted through Basic Programmes in the Faculty of Social Sciences in favour of the later. Table 6b shows, for equal variances assumed, a t-value of -3.355 with 142 df and a p value of 0.001. Since the p value (Sig. 2-tailed) of 0.001 is less than the alpha of 0.05, the null hypothesis of no

**Table 6a.** Descriptive analysis for Research Question 3

	MODES	N	Mean	Std. Deviation	Std. Error Mean
CGPAs	UME/PUME	95	2.9268	.46482	.04769
	BASIC	50	3.2171	.54138	.07734

**Table 6b.** T-test analysis for testing Ho:3

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
CGPAs	Equal variances assumed	.941	.334	-3.355	142	.001	-.29030	.08654	-.46137	-.11923
	Equal variances not assumed			-3.195	85.154	.002	-.29030	.09086	-.47095	-.10965

**Table 7a.** Descriptive analysis for answering Research Question 4

	VAR00002	N	Mean	Std. Deviation	Std. Error Mean
VAR00001	UME/PUME	73	2.8899	.40250	.04711
	BASIC	32	3.0725	.48080	.08499

**Table 7b.** T-test analysis for testing Ho:4

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
VAR00001	Equal variances assumed	1.118	.293	-2.015	103	.047	-.18264	.09065	-.36242	-.00285
	Equal variances not assumed			-1.879	50.904	.066	-.18264	.09718	-.37774	.01246

significant difference between the CGPAs of graduates who were admitted through UME/PUME and Basic Studies Programme in the Faculty of Social Science in the University of Port Harcourt is rejected. In summary, the independent t-test is statistically significant as  $t(142) = -3.36$ ,  $p < .05$ ,  $p < .01$ , 2-tailed. Mean of the CGPAs of graduates admitted through the Basic Studies Programme is significantly higher than that of the graduates admitted through the UME/PUME.

Table 7a shows that the graduates who were admitted through the UME/PUME in the College of Medical

Sciences in 2009/2010 and 2010/2011 academic sessions are 73. The mean of their CGPAs is 2.8899 with a standard deviation of 0.40250. Their counterparts admitted through the Basic Studies Programme are 32 with a mean CGPA of 3.0725 and a standard deviation of 0.48080. This shows a difference in the means of the CGPAs of the graduates admitted through UME/PUME and those admitted through Basic Studies Programmes in the College of Medical Sciences in favour of the later. Table 7b indicates, for equal variances assumed, a t-value of -2.015 with 103 df and a p value of 0.047. Since



**Table 8a.** Answering of Research Question 5

	VAR00002	N	Mean	Std. Deviation	Std. Error Mean
VAR00001	UME/PUME	17	3.1059	.46019	.46019
	BASIC	7	2.8971	.46019	.11161

**Table 8b.** T-test analysis for testing Ho:5

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	Lower	Upper
VAR00001	Equal variances assumed	.069	.795	.983	22	.336	.20874	.21236	-.23166	.64914
	Equal variances not assumed			.944	10.349	.367	.20874	.22114	-.28175	.69923

the p value (Sig. 2-tailed) of 0.047 is less than the alpha level of 0.05, the null hypothesis of no significant difference between the CGPAs of graduates who were admitted through UME/PUME and Basic Studies Programme in the College of Health Sciences in the University of Port Harcourt is rejected. In summary, the independent t-test is statistically significant as  $t(103) = -2.02$ ,  $p < .05$ , 2-tailed. Mean of the CGPAs of graduates admitted through the Basic Studies Programmes is significantly higher than that of the graduates admitted through the UME/PUME.

Table 8a shows that the graduates who were admitted through the UME/PUME in the Faculty of Agricultural Science, University of Port Harcourt in 2009/2010 and 2010/2011 academic sessions that were used for this study are 17. The mean of their CGPAs is 3.1059 with a standard deviation of 0.46019. Their counterparts admitted through the Basic Programme are 7 with a mean CGPA of 2.8971 and a standard deviation of 0.50510. This shows a difference in the means of the CGPAs of the graduates admitted through UME/PUME and those admitted through Basic Studies Programmes in the Faculty of Agricultural Science in favour of the former. Table 8b shows, for equal variances assumed, a t-value of 0.983 with 22 df and a p value of 0.336. Since the p value (Sig. 2-tailed) of 0.336 is greater than the alpha level of 0.05, the null hypothesis of no significant difference between the CGPAs of graduates who were admitted through UME/PUME and Basic Studies Programme in the Faculty of Agricultural Science in the University of Port Harcourt is retained. In summary, the independent t-test is not statistically significant as  $t(22) = 0.983$ ,  $p > 0.05$ , 2-tailed. Mean of the CGPAs of graduates

admitted through the Basic Studies Programmes do not significantly differ from that of the graduates admitted through the UME/PUME.

Table 9a shows that the graduates who were admitted through the UME/PUME in the Faculty of Engineering, University of Port Harcourt in 2009/2010 and 2010/2011 academic sessions that were used for this study are 128. The mean of their CGPAs is 3.0758 with a standard deviation of 0.44874. Their counterparts admitted through the SSLT Programme were 45 with a mean CGPA of 2.7387 and a standard deviation of 0.50464. This shows a difference in the means of the CGPAs of the graduates admitted through UME/PUME and those admitted through SSLT Programmes in the Faculty of Engineering in favour of the former. Table 9b shows, for equal variances assumed, a t-value of 4.194 with 171 df and a p value of 0.001. Since the p value (Sig. 2-tailed) of 0.001 is less than the alpha level of 0.05, the null hypothesis of no significant difference between the CGPAs of graduates who were admitted through UME/PUME and SSLT Programme in the Faculty of Engineering in the University of Port Harcourt is rejected. In summary, the independent t-test is statistically significant as  $t(171) = 4.194$ ,  $p < .05$ , 2-tailed. Mean of the CGPAs of graduates admitted through the UME/PUME is significantly higher than that of the graduates admitted through the SSLT Programme.

Table 10a shows that the graduates who were admitted through the UME/PUME in the Faculty of Sciences, University of Port Harcourt in 2009/2010 and 2010/2011 academic sessions that were used for this study are 236. The mean of their CGPAs is 2.8706 with a standard deviation of 0.41340. Their counterparts

**Table 9a.** Descriptive analysis for answering Research Question 6

	VAR00002	N	Mean	Std. Deviation	Std. Error Mean
VAR00001	UME/PUME	128	3.0758	.44874	.03966
	SSLT	128	2.7387	.50464	.07523

**Table 9b.** T-test analysis for testing Ho:6

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	Lower	Upper
VAR00001	Equal variances assumed	.705	.402	4.194	171	.000	.33711	.08037	.17846	.16750
	Equal variances not assumed			3.964	69.990	.000	.33711	.08504	.16750	.50673

**Table 10a.** Descriptive analysis of the CGPAs of graduates admitted through the UME/PUME and SSLT Programme in the Faculty of Sciences.

	VAR00002	N	Mean	Std. Deviation	Std. Error Mean
VAR00001	UME/PUME	236	2.8706	.41340	.02691
	SSLT	77	3.2643	.40262	.04588

**Table 10b.** T-test analysis for testing Ho:7

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	Lower	Upper
VAR00001	Equal variances assumed	2.730	.099	-7.302	311	.000	-.39365	.05391	-.49973	-.28757
	Equal variances not assumed			-7.401	132.218	.000	-.39365	.05319	-.49887	-.28843

admitted through the SSLT Programme were 77 with a mean CGPA of 3.2643 and a standard deviation of 0.40262. This shows a difference in the means of the CGPAs of the graduates admitted through UME/PUME and those admitted through SSLT Programmes in the Faculty of Sciences in favour of the later. Table 10b shows, for equal variances assumed, a t-value of -7.302 with 311 df and a p value of 0.001. Since the p value (Sig. 2-tailed) of 0.001 is less than the alpha level of 0.05, the null hypothesis of no significant difference between the CGPAs of graduates who were admitted through

UME/PUME and SSLT Programme in the Faculty of Science in the University of Port Harcourt is rejected. In summary, the independent t-test is statistically significant as  $t(311) = 7.032$ ,  $p < .05$ , 2-tailed. The mean of the CGPAs of graduates admitted through the SSLT Programmes is significantly higher than that of the graduates admitted through the UME/PUME.

Table 11a shows that the graduates who were admitted through the UME/PUME in the University of Port Harcourt in 2009/2010 and 2010/2011 academic sessions that were used for this study are 877. The mean

**Table 11a.** Descriptive analysis of the CGPAs of graduates admitted through the UME/PUME and the Preliminary Programmes.

	MODES	N	Mean	Std. Deviation	Std. Error Mean
CGPAs	UME	877	2.9386	.46720	.01578
	ALL MODES	323	3.1997	.54766	.03047

**Table 11b.** T-test analysis for testing Ho:8

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	Lower	Upper
CGPAs	Equal variances assumed	7.881	.005	-8.186	1198	.000	-.26113	.03190	-.32371	-.19854
	Equal variances not assumed			-7.610	504.424	.000	-.26113	.03431	-.32854	-.19371

of their CGPAs is 2.9386 with a standard deviation of 0.46720. Their counterparts admitted through the Preliminary Programmes were 323 with a mean CGPA of 3.1997 and a standard deviation of 0.54766. This shows a difference in the means of the CGPAs of the graduates admitted through UME/PUME and those admitted through the Preliminary Programmes in favour of the later. Table 11b shows, for equal variances not assumed, a t-value of -7.610 with 504.424 df and a p value of 0.001. Since the p value (Sig. 2-tailed) of 0.001 is less than the alpha level of 0.05, the null hypothesis of no significant difference between the CGPAs of graduates who were admitted through UME/PUME and Preliminary Programmes in the University of Port Harcourt is rejected. In summary, the independent t-test is statistically significant as  $t(504.424) = -7.610$ ,  $p < .05$ , 2-tailed. The mean of the CGPAs of graduates admitted through the Preliminary Programmes is significantly higher than that of the graduates admitted through the UME/PUME.

Table 12a shows that the graduates admitted through the UME/PUME had the following statistics: In the Faculty of Humanities, 141 graduates were used and the mean of their CGPAs is 3.0038 with a standard deviation of 0.54714. In the Faculty of Social Sciences, 95 graduates were used and the mean of their CGPAs is 2.9268 with a standard deviation of 0.46482. In the Faculty of Science, 236 graduates were used and the mean of their CGPAs is 2.8706 with a standard deviation of 0.41340. In the Faculty of Education, 187 graduates were used and the mean of their CGPAs is 2.8910 with a standard deviation of 0.48092. In the Faculty of Agricultural Science, 17 graduates were used and the mean of their CGPAs is 3.1059 with a standard deviation of 0.46019. In the

College of Health Sciences, 73 graduates were used and the mean of their CGPAs is 2.89 with a standard deviation of 0.403. This shows that the academic performance of graduates admitted through the UME/PUME vary across the faculties of the University of Port Harcourt. The table also shows that graduates that were admitted through Certificate Programme in the Faculty of Humanities who were investigated were 50 in number with a mean CGPA of 3.2712 and a standard deviation of 0.66134 whereas their counterparts in the Faculty of Education were 62 having a mean CGPA of 3.4768 and a standard deviation of 0.45558. This implies that the academic performance of graduates admitted through certificate Programme differs between the two faculties.

It could be seen from the table 4.17 that graduates admitted through Basic Studies Programme had the following statistics: In the Faculty of Social Sciences, 50 graduates were used having a mean CGPA of 3.2238 and a standard deviation of 0.53789; in the Faculty of Agricultural Science, seven graduates were used and the mean of their CGPAs was 2.8971 and a standard deviation of 0.5010; in the College of Health Sciences, 32 graduates were used and the mean of their CGPAs was 3.0725 and a standard deviation of 0.48080.

This shows that the academic performance of graduates who were admitted through Basic Studies Programme differs among the three faculties of learning. Finally, for graduates admitted through SSLT in the Faculty of Science that were used for the study were 77 with a mean CGPA of 3.2643 and a standard deviation of 0.4262 whereas their counterparts in the Faculty of Engineering were 45 with a mean CGPA of 2.7387 and a standard deviation of 0.50464. This shows a difference in the academic performance of the graduates admitted

**Table 12a.** Descriptive analysis answering Research Question 9

<b>MODES</b>	<b>FACULTIES</b>	<b>Mean</b>	<b>Deviation</b>	<b>N</b>
UME	HUMANITIES	3.0038	.54714	141
	SOC. SCIENCES	2.9268	.46482	95
	SCIENCES	2.8706	.41340	236
	EDUCATION	2.8910	.48092	187
	ENGINEERING	3.0758	.44874	128
	AGRICULTURE	3.1059	.46019	17
	COLLEGE OF HEALTH	2.8899	.40250	73
	Total	2.9386	.46720	877
CERTIFICATE	HUMANITIES	3.2712	.66134	50
	EDUCATION	3.4768	.45558	62
	Total	3.3850	.56362	112
BASIC	SOCIAL SCIENCES	3.2238	.53789	50
	AGRICULTURE	2.8971	.50510	7
	COLLEGE OF HEALTH	3.0725	.48080	32
	Total	3.1437	.51986	89
SSLT	SCIENCE	3.2643	.40262	77
	ENGINEERING	2.7387	.50464	45
	Total	3.0704	.50918	122
Total	HUMANITIES	3.0738	.58930	191
	SOCIALSCIENCES	3.0292	.50946	145
	SCIENCES	2.9675	.44390	313
	EDUCATION	3.0368	.53754	249
	ENGINEERING	2.9881	.48562	173
	AGRICULTURE	3.0450	.47251	24
	COLLEGE OF HEALTH	2.9455	.43382	105
	Total	3.0089	.50344	1200

**Table 12b.** Two-way Analysis of Variance for testing Ho:9

<b>Source</b>	<b>Type III Sum of Squares</b>	<b>Df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Corrected Model	37.369 <sup>a</sup>	13	2.875	12.792	.000
Intercept	3721.351	1	3721.351	1.656E4	.000
Modes of Admission	15.322	3	5.107	22.728	.000
Faculties	3.083	6	.514	2.286	.034
Modes of Admission* Faculties	14.520	4	3.630	16.153	.000
Error	266.519	1186	.225		
Total	11167.702	1200			
Corrected Total	303.888	1199			

a. R Squared = .123 (Adjusted R Squared = .113)

through SSLT in the Faculties of Science and Engineering. In summary, the graduates admitted through Certificate Programme had the highest mean CGPA (mean=3.3850, SD = 0.56362, N = 112) followed by graduates admitted through Basic Studies (mean =

3.1437, SD = 0.51986, N = 89), then graduates admitted through SSLT (mean = 3.0704, SD = 0.50918, N = 122) lastly, the graduates admitted through the UME/PUME (mean = 2.9386, SD = 0.46720, N = 877).

Table 12b shows that the modes of admission has a

**Table 12c.** Multiple comparisons of the UME/PUME, Certificate, Basic Studies and SSLT modes of admission. Scheffe

(I) VAR00002	(J) VAR00002	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
UME/PUME	CERT.	-.4464	.04757	.000	-.5796	-.3133
	BASIC	-.2051	.05274	.002	-.3528	-.0575
	SSLT	-.1318	.04581	.041	-.2601	-.0036
CERT.	UME/PUME	.4464	.04757	.000	.3133	.5796
	BASIC	.2413	.06732	.005	.0528	.4297
	SSLT	.3146	.06204	.000	.1409	.4883
BASIC	UME/PUME	.2051	.05274	.002	.0575	.3528
	CERT	-.2413	.06732	.005	-.4297	-.0528
	SSLT	.0733	.06608	.746	-.1117	.2583
SSLT	UME/PUME	.1318	.04581	.041	.0036	.2601
	CERT.	-.3146	.06204	.000	-.4883	-.1409
	BASIC	-.0733	.06608	.746	-.2583	.1117

Based on observed means.

The error term is Mean Square(Error) = .225

\*The mean difference is significant at the .05 level

Type III Sum of Squares of 15.322, a degree of freedom of 3, a Mean Square of 5.107, F ratio of 22.728 and a p value of 0.001. Since the p value (Sig. 2-tailed) of 0.001 is less than the alpha level of 0.05, the CGPAs of the graduates admitted through the four modes (UME/PUME, Certificate, Basic and SSLT) significantly differ. In summary, the F ratio is statistically significant as  $F(3, 1186) = 22.728$ ,  $p < .05$ , 2-tailed. Hence, the academic performances of graduates admitted through the various modes of admission significantly differ. Table 12b further shows that faculties has a Type III Sum of Squares of 3.083, a degree of freedom of 6, a Mean Square of 0.514, F ratio of 2.286 and a p value of 0.034. Since the p value (Sig. 2-tailed) of 0.034 is less than the alpha level of 0.05, the CGPAs of the graduates of the various faculties significantly differ. In summary, the F ratio is statistically significant as  $F(6, 1186) = 2.286$ ,  $p < .05$ , 2-tailed. Hence, the academic performances of graduates of the various faculties significantly differ. It can equally be seen in Table 12b that for the Interaction effect of the Modes of admission and the Faculties, an F ratio of 16.153 with degrees of freedom of 4 and 1186, type III sum of squares of 14.520, mean square of 3.630 and a p value of 0.001. Since the p value (Sig. 2-tailed) of 0.001 is less than the alpha level of 0.05, the null hypothesis of no statistically significant difference existing in the academic performance of graduates who were admitted through the four modes of admission (UME/PUME, Certificate, Basic Studies and SSLT) is rejected.

Table 12c shows that: a statistically significant difference exists between the academic performances of graduates admitted through UME/PUME and those admitted through each of Certificate, Basic Studies and SSLT Programmes in favour of those admitted through

each of these Preliminary Programmes,  $p < 0.05$  in each case; a statistically significant difference exists between the academic performances of graduates admitted through Certificate Programmes and those admitted through each of Basic Studies and SSLT Programmes in favour of those admitted through Certificate Programme,  $p < 0.05$  in each case; but a statistically significant difference does not exist between the academic performances of graduates admitted through Basic Studies Programme and those admitted through SSLT Programme,  $p > 0.05$ .

## DISCUSSION OF FINDINGS

Each of the findings is briefly discussed in this section in line with reviewed literature and recommendations are made.

### Comparison of the CGPAs of Graduates Admitted through UME/PUME and Certificate Programme in the Faculty of Education

The finding indicates that the graduates admitted through Certificate Programme overwhelmingly performed better than those admitted through UME/PUME probably because the graduates admitted through Certificate programme have spent at least one full academic session in the university environment, studying parts of the various courses that are taught in the main regular programme. Hence, they are well acquainted with some of their lecturers' personalities and teaching methods; how to source for information in the libraries and offices;

as well as how to easily locate lecture venues and recreational facilities. Also, the graduates admitted through Certificate Programme have been introduced to most of the courses they would take in 100 levels of their degree programmes while those admitted through the UME/PUME do not have the opportunity to be acquainted with such courses.

The finding of the present study is in agreement with that of Okpilike (2011) and Apantaku (2003) who found out that faculty of education undergraduates who gained admission through pre-degree programme performed significantly better than their counterparts who were admitted through Joint Admission and Matriculation Examination; and that pre-degree students across various faculties performed better than those admitted through the UTME/UME.

However, the first result of this study is incongruous with what Evrora (2009) and Edoyan (2002) found. Evrora revealed lack of significant difference between mode of entry (including Certificate Programme and UME) and students' academic performance. Edoyan found that there exists no significant difference between the proportions of high and low UME scorers with low CGPAs in the Rivers State University of Science and Technology. This means that UME scores do not significantly influence the academic performance of students with low CGPA. The divergent results from the present study may be attributed to some reasons: while the present study used university graduates' CGPAs, the previous ones used undergraduates' results. Also, Edoyan and Evrora conducted their studies using Faculty of Engineering students and students across various faculties respectively in addition to use of non-parametric statistical test (Chi  $X^2$ ) which is weak, less powerful and with less precision; while the present work was conducted using Education graduates in addition to application of much more powerful and accurate statistical test, independent samples t-test.

#### **Comparison of the CGPAs of Graduates Admitted through UME/PUME and certificate Programme in the Faculty of Humanities**

The result shows preponderance of evidence that the graduates admitted through Certificate Programme performed overwhelmingly better than those admitted through UME/PUME. This result is not surprising because the graduates admitted through Certificate programme have also spent at least one full academic session in the university environment. Hence, the graduates admitted through Certificate Programme have been introduced to some of the courses they would take in the levels 100 through to 400 of the regular degree programmes while those admitted through the UME/PUME have not been exposed to such opportunity. Hence, they are well acquainted with some of their

lecturers' personalities and teaching methods; how to source for information in the libraries and offices; as well as how to easily locate lecture venues and recreational facilities. The finding of the present study is in agreement with those of Adeyemi (2009). Adeyemi found out that undergraduates who gained admission through pre-degree programme performed significantly better than their counterparts who were admitted through the UME.

However, the finding is at variant with those of Evrora (2009) that no significant difference exists between mode of entry (including Certificate Programme and UME) and students' academic performance. This difference may be attributed to the fact that the previous ones used undergraduates' results, while the present study used university graduates' CGPAs. Also, Evrora conducted his study using students across various faculties in Delta State University while the present work made use of graduates of Faculty of Education, University of Port Harcourt.

#### **Comparison of the CGPAs of Graduates Admitted through UME/PUME and Basic Studies Programme in the Faculty of Social Sciences**

The result of this study indicates that the graduates admitted through Basic Studies Programme performed remarkably better than those admitted through UME/PUME. Statistical analysis shows a t-value of -3.355 with 142 degrees of freedom and a p value of 0.001 which is significant at even 0.01 alpha. Hence the graduates admitted through the Basic Studies Programme performed significantly better than the graduates admitted through the UME/PUME. Probably, this is because the graduates admitted through Basic Studies programme have spent at least a full academic sessions in the university environment. In other words they have passed through A-Level training in their courses while those admitted through the UME/PUME have not undergone such courses. Also, the graduates admitted through the Basic Studies are well acquainted with some of their lecturers' personalities and teaching methods; how to source for information in the libraries and offices; as well as how to easily locate lecture venues and recreational facilities.

The present finding concurs with those of Osakuade (2011), Apantaku (2003) and Okonkwo (2011). Osakuade examined the relative effectiveness of University Matriculation Examination (UME) and Post University Matriculation Examination (Post-UME) on the final year academic performance of students admitted to Adekunle Ajasin University Akungba Akoko in 2004-2005 and 2005-2006 sessions, being the last set of students admitted with UME and first set admitted with Post-UME respectively. Findings showed that there is a low relationship between students' score in UME and Post-UME; and that Post-UME was more effective than the

UME as those admitted with PUME performed significantly better academically than their counterparts admitted with only UME. On the whole, those admitted with UME and PUME performed significantly lower academically than those who secured admission from pre-degree programmes. While Okonkwo found that the undergraduates who gained admission through pre-degree programme performed significantly better than their counterparts who were admitted through the UME; Apantaku found that the pre-degree students across various faculties performed better than those admitted through the University Matriculation Examinations (UME).

### **Comparison of the CGPAs of Graduates Admitted through UME/PUME and Basic Studies Programme in the College of Health Sciences**

The result indicates that the graduates admitted through Basic Studies Programme performed better than those admitted through UME/PUME. This result might be because the graduates admitted through Basic Studies programme have spent at least one full academic session in the university environment. Hence, they are well acquainted with some of their lecturers' personalities and teaching methods; how to source for information in the libraries and offices; as well as how to easily locate lecture venues and recreational facilities. Also, the graduates admitted through Basic Studies Programme have been introduced to most of the courses they would take in 100 levels and some other levels of their degree programmes while those admitted through the UME/PUME did not have the opportunity to be acquainted with such courses.

The finding of the present study is in agreement with that of Otokunefor (2011) who conducted a comparative study on the academic performance of Micro Biology undergraduate students admitted through Basic Studies Programme and those admitted through UME/PUME in the University of Port Harcourt. He found that the students admitted through Basic Studies Programme performed significantly better than their counterparts who were admitted through the UME/PUME. The present finding also concurs with the results of Afolabi, Mabayoje, Togun and Oyadeyi (2007) that the University Matriculation Examinations (UME) has a weak relationship with the academic performance of students in the Medical School, giving room for those admitted from Basic Studies programme to have better CGPAs.

However, findings discordant with the present one were found by Evrora (2009) and Edoyan (2002). Evrora conducted a study aimed at examining the relationship between the mode of entry and degree performance of students of Delta State University. The study revealed no significant difference between mode of entry (including Certificate Programme and UME) and students' academic performance. Edoyan also found out that there

exists no significant difference between the proportions of high and low UME scorers with low CGPAs in the Rivers State University of Science and Technology. This means that UME scores do not significantly influence the academic performance of students with low CGPA. The divergent results from the present study may be attributed to some reasons: while the present study used university graduates' CGPAs, the previous ones used undergraduates' results. Also, Edoyan conducted the studies using Engineering students while the present work was conducted using undergraduate medical students.

### **Comparison of the CGPAs of Graduates Admitted through UME/PUME and Basic Studies Programme in the Faculty of Agricultural Science.**

The result shows that the mean of the CGPAs of the graduates admitted through UME/PUME is 3.1059 while that of their counterparts that were admitted through Basic Studies Programme is 2.8971. Statistical analysis shows a t-value of 0.983 and a p value (sig. 2-tailed) of 0.336 which is not significant at 0.05 level of confidence. Hence there is no significant difference in the academic performance of graduates admitted through the UME/PUME and those admitted through the Basic Studies Programme. This result is unexpected because the graduates admitted through the Basic Studies programme have spent at least two academic sessions in the university environment and thus have gotten well acquainted with the process of teaching and learning in this faculty. Hence, they are expected to perform better than those admitted through the UME/PUME. However, this unexpected result could be due to the fact that some of the students who were running Basic Studies programme got admission through the UME/PUME while or after running the programme. Also many students admitted to Faculty of Agricultural Sciences were those who made very high UTME/PUTME scores in areas other than agriculture but could not be admitted and consequently shifted to Faculty of Agriculture. The current finding is in corroboration with those of Evrora (2009) and Edoyan (2002) that there is no significant difference between mode of entry and students' academic performance while Edoyan discovered no significant effect of UME on academic performance among students with low CGPAs. However, findings discordant with the present one was found by Adeyemi (2009) who found that the students who gained admission through pre-degree programmes performed better than those that were admitted through the UME/PUME. Also Okonkwo (2011) and Afolabi (2007) confirm weak linkage between the UME and academic performance of students.

### **Comparison of the CGPAs of Graduates Admitted through UME/PUME and SSLT Programme in the Faculty of Engineering**

Result on this shows that the mean of the CGPAs of the graduates admitted through UME/PUME is 3.0758 while that of their counterparts that were admitted through SSLT Programme is 2.7387. This indicates that the graduates admitted through the UME/PUME performed better than those admitted through SSLT programme. Statistical analysis shows a t-value of 4.194 with 171 degrees of freedom and a p value (sig. 2-tailed) of 0.001 which is significant at even 0.01 level of confidence. Hence the graduates admitted through the UME/PUME performed significantly better than the graduates admitted through the SSLT programme. This result is unexpected and surprising because the graduates admitted through the SSLT programme have spent at least two academic sessions in the university environment and thus have gotten well acquainted with the process of teaching and learning in this Faculty of Engineering. Hence, they are expected to perform better than their counterparts who were admitted through the UME/PUME. However, this unexpected result could be due to the fact that some of the students who were running Basic Studies programme got admission through the UME/PUME while or after running the programme. It might also be due to the fact that thousands of candidates write UTME/PUTME for admission into Faculty of Engineering in University of Port Harcourt and only very few of them who are the very best (not more than 50 per department) are admitted into the programme as specified by the professional body. This finding concurs with that of Ogbemor (2012) that JAMB mode of admission (i.e., UTME/PUTME) was significantly more effective in academic performance in the university than other modes of admission like Continuing Education or preliminary programme.

However, the present finding is contrary to those by Adeyemi (2009) and Okpilike (2011) and Otokune for (2011) who showed that the students admitted through Pre-degree performed better than those admitted through the UME. The reason for this divergent result could be that some of those students who gained admission through the UME/PUME had already run SSLT Programme in part or in full or other Advanced Level related courses.

### **Comparison of the CGPAs of Graduates Admitted through UME/PUME and SSLT Programme in the Faculty of Science**

The result shows that the graduates admitted through SSLT Programme performed better than those admitted through UME/PUME into the Faculty of Science. Statistical analysis shows a t-value of -7.302 with 311

degrees of freedom and a p value (sig. 2-tailed) of 0.001 which is significant at 0.05 and 0.01 levels of confidence. Hence the graduates admitted through the SSLT Programme performed significantly better than the graduates admitted through the UME/PUME. This result is expected and not surprising because the graduates admitted through Certificate programme have spent at least two full academic sessions in the university environment. Hence, they also like the other preliminary programmes are well acquainted with some of their lecturers' teaching methods; how to source for information in the libraries and offices; as well as how to easily locate lecture venues and recreational facilities. Also, the graduates admitted through SSLT Programme have been introduced to many of the courses they would take in their degree programmes while those admitted through the UME/PUME do not have the opportunity to be acquainted with such courses.

The finding of the present study is in agreement with that of Apantaku's (2003) that undergraduates who gained admission through pre-degree programme performed significantly better than their counterparts who were admitted through UME in the College of Natural Science, University of Agriculture, Abeokuta. The finding of Adeyemi (2009) is also in consonance with the finding of the present study. He found out that the pre-degree students across various faculties performed better than those admitted through the University Matriculation Examinations (UME).

### **Comparison of the CGPAs of Graduates Admitted through UME/PUME and Preliminary Programmes in the University of Port Harcourt**

The result shows that the graduates admitted through the Preliminary Programmes performed better than those admitted through UME/PUME across the faculties in the University of Port Harcourt with the exception of Faculties of Engineering and Agricultural Sciences. Statistical analysis shows a t-value of -7.610 with 504.424 degrees of freedom and a p value (sig. 2-tailed) of 0.001 which is significant at both 0.05 and 0.01 levels of confidence. Hence the graduates admitted through the Preliminary Programmes performed extraordinarily better than the graduates admitted through the UME/PUME in the University. This is probably because the graduates admitted through the Preliminary Programmes have spent at least one or two academic sessions in the university environment. Hence, they are well acquainted with some of their lecturers' personalities and teaching methods; how to source for information in the libraries and offices; as well as how to easily locate lecture venues and recreational facilities. Also, the graduates admitted through the Preliminary Programmes have been introduced to many of the courses that they would take in their regular degree programmes while those admitted



through the UME/PUME were not given the opportunity to be acquainted with such courses. The finding of the present study is in agreement with those of Okpilike (2011), Apantaku (2003) Adeyemi (2009) and Otokunefor (2011) that undergraduates who gained admission through Pre-degree and Basic Studies programmes, as the case may be, performed significantly better than their counterparts who were admitted through the UME.

However, findings discordant with the present one were by Evrora (2009) and Edoyan (2002). Both studies found that mode of entry does not significantly influence students' academic performance. This divergent result may be due to the fact that the present study used university graduates' CGPAs, while the previous ones used undergraduates' results. Also, the large sample size used in the present study compared to the smaller sample sizes used by the previous studies might have contributed to these divergent results.

### **Comparison of the CGPAs of Graduates Admitted through UME/PUME, Certificate, Basic Studies and SSLT Programmes in the University of Port Harcourt**

The result shows that the mean of the CGPAs of the graduates admitted through the various modes in the University of Port Harcourt are as follows: UME/PUME - 2.9386, Certificate Programme - 3.3856, Basic Studies Programme - 3.1437, and SSLT Programme - 3.0704. This shows that the graduates admitted through the Certificate Programme performed best of all the four modes; followed by those admitted through Basic Studies programme; then those admitted through SSLT; and lastly, those admitted through the UME/PUME. Statistical analysis shows a mean square of 3.630 with df of 4 and a p value (sig. 2-tailed) of 0.001 which is significant at 0.05 level of confidence. Hence there is a significant difference in the academic performance of graduates admitted through the four modes across the various faculties in the University of Port Harcourt. This result is expected and not surprising because the test instruments used in the various faculties are not expected to have the same psychometric properties such as item difficulty and discrimination indices. Hence different academic performances are expected from the graduates of the various faculties admitted through different modes of entry.

The finding of the present study is in agreement with those of Okpilike (2011), Apantaku (2003) Adeyemi (2009) and Otokunefor (2011) who found that undergraduates who gained admission through pre-degree and Basic Studies programmes, as the case may be, performed significantly better than their counterparts who were admitted through UME.

However, findings discordant with the present one were found by Evrora (2009) and Edoyan (2002). Both studies found that modes of entry do not significantly

affect students' academic performance. This divergent result may be due to the fact that the present study used university graduates' CGPAs, while Evrora and Edoyan used undergraduates' results. Also, the large sample size used in the present study compared to the smaller sample sizes used in their studies might have contributed to the divergence in the results.

Pairwise comparisons of the various modes of admission reveal that: a significant difference exists between the academic performances of graduates admitted through UME/PUME and those admitted through each of Certificate, Basic Studies and SSLT Programmes. Each of these Preliminary Programmes produced graduates that performed better than those admitted through the UTME/PUTME. These results are expected due to reasons that the graduates admitted through the preliminary are better and earlier exposed to the school environment in terms of teaching and learning, use of facilities and adaptation to the social life than those admitted through the UTME/PUTME.

Another set of results from the pairwise comparisons shows that a significant difference also exists between the academic performances of graduates admitted through Certificate Programmes and those admitted through each of Basic Studies and SSLT Programmes in favour of those admitted through Certificate Programme; but a significant difference does not exist between the academic performance of graduates admitted through Basic Studies Programme and those admitted through SSLT Programme. The reason the graduates admitted through Certificate Programme performed better than those that were admitted through Basic Studies and SSLT Programmes could be due to the wide disparity between the Faculties of Education and Humanities on the one hand and the other science-based faculties which run Basic Studies and SSLT Programmes. This gives rise to tests with different psychometric properties, hence the different in academic performances. This view confirms also why no significant difference exists between the academic performances of graduates admitted through Basic Studies Programme and those admitted through SSLT Programme: both programmes are science-based preliminary programmes and thus could have tests with fairly the same psychometric properties. Sequel to this, significant differences are not expected in the means of the CGPAs of the graduates admitted through these two preliminary programmes.

### **RECOMMENDATIONS**

Based on the findings of the study, the following recommendations are made:

1. More attention be given to the Certificate Programme in terms of financing and provision of teaching facilities by the school administration as graduates admitted through it make the best CGPAs at graduation.

2. The Certificate Programme and UTME/PUTME ratio for admission of students into bachelor degree programmes should be reviewed upwards in favour of the Certificate Programme.
3. Increase in financing should be made to Basic Studies Programme and more motivations given to its administrators as graduates admitted through it perform significantly better academically than those admitted through UTME/PUTME at graduation.
4. In the admission of students into degree programmes in the Faculty of Social Sciences and the College Health Sciences, priority and more opportunity should be given to candidates who passed through the Basic Studies Programme than those who passed through the UTME/PUTME.
5. More equipment should be made available to the School of Science Laboratory Technology to produce more capable individuals for both the labour market and the furtherance of their studies in degree programmes.
6. The current UTME/PUTME and Basic Studies admission ratio should be maintained or reviewed upwards in favour of the candidates admitted through the UTME/PUTME in the Faculty of Engineering.
7. The admission policies of the University of Port Harcourt be reviewed to create more opportunities for candidates admitted through the preliminary programmes in the Faculties of Education, Humanities, Social Sciences, Sciences and College of Health Sciences.
8. More attention should be given to the financing and effective administration of the Preliminary programmes in the University of Port Harcourt.

## CONCLUSION

In synopsis, this work is a comparative analysis of the academic performance of graduates admitted through UTME/PUTME and Preliminary Programmes in the University of Port Harcourt. The preliminary programmes that were studied include the Certificate, Basic Studies and SSLT Programmes. Nine research questions and hypotheses were formulated to guide this study. Extensive conceptual, theoretical and empirical literature review was done.

The design for the study was causal comparative ex-post facto. The population of the study constituted the graduates of 2009/2010 and 2010/2011 academic sessions from the Faculties of Education, Humanities, Social Sciences, Agricultural Sciences, Science, Engineering and College of Health Sciences that were admitted through UME, used interchangeably with UTME/PUTME and the Preliminary Programmes. A sample of 1200 was drawn from a population of 13,898 graduates, using proportional stratified random sampling technique. The CGPAs of the graduates were collected from the School Exams and Records Office using inventory form. The research questions were answered

with mean and standard deviations. Null hypotheses one to eight were tested with the Independent Samples T-test, and the ninth null hypothesis nine was tested with Two-way Analysis of Variance at 0.05 level of significance adopting SPSS Version 21.

The results of the study showed that the graduates admitted through the Preliminary Programmes performed significantly better than their counterparts who were admitted through the UTME/PUTME in all the Faculties except in the Faculties of Agricultural Sciences and Engineering. In the Faculty of Agricultural Sciences, there was no significant difference in academic performance, while in the Faculty of Engineering, the graduates admitted through the UTME/PUTME performed significantly better than those admitted through the SSLT Programme. A Comparison of the four modes of admission shows that the Certificate Programme has produced graduates with the best academic performance followed by the Basic Studies Programme, then the SSLT Programme and lastly, the UME/PUME. Discussion of findings and data-based recommendations were made.

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