

## **Learning Environment, Students' Variables and Academic Achievement of Second Year Students in Selected Core Education Courses in the Universities in River State, Nigeria**

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### **Abstract**

*The study investigated the influence of learning environment and students' variables on academic achievement of year two undergraduate students in core educational courses, namely: curriculum studies, educational psychology, and educational technology in university of Port-Harcourt and Rivers State University of Science and Technology. The study specifically examined the extent to which some environmental variables (teacher quality, instructional resources and class size) and students' variables (study habits, attitude, achievement, motivation and gender) influence academic achievement in core educational courses. To direction to the study, 2 hypotheses were formulated based on the independent variables. An ex-post facto research design was adopted for the study. A sample of 1418 students was selected for the study using stratified and simple random sampling techniques. Two research instruments namely Learning Environment and Students' Variables Questionnaire (LESVQ) and Core Education Courses Achievement Test (CECAT) were used to collect the data for the study. Pearson product moment correlation, independent t-test and regression were the*

*statistical tool employed to analysis of the data at 0.05 level of significance. The results showed significant positive correlation between students' academic achievement in core education courses and teacher quality, instructional resources, attitude, achievement, motivation, gender and study habit. Based on the findings, it was recommended that teacher quality in the university should be improved and sustained through regular financial support to academic staff to attend conferences, workshop, seminars, and in-service training to acquaint them with emerging trends in subject specific pedagogy.*

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**Key Words:** *Learning, Learning Environment, Students' Variables, Academic Achievement, Core Education Courses.*

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## **Introduction**

Education, be it informal, formal or non-formal plays an essential role in the development of human capacity. It is a process by which individuals are guided to become useful to them and become effective members of the society. For anybody to acquire the capacity to contribute meaningful to his society, he needs to be provided with proper education. The National Policy on Education (FRN, 2004) clearly emphasized that education shall continue to be highly rated in national development plans, because it is the only catalyst for invigorating positive change in the society. Education is the most potent instrument for social reconstruction and social change, while teacher education is the foundation of quality teaching in the school system. Though the child is the centre of the system, teachers are the hub of the educational process. It is upon their education and training, their quality and devotion to duty, their competence and productivity that the entire educational system and enterprises depend (Ukeje, 2004).

The importance of quality in teacher education is well recognized in Nigeria as in all education communities all over the world. The Nigerian National Policy on Education affirms that no education system can rise above the quality of its teachers (FRN, 2004). To ensure the realization of the above statement, the same policy enunciated the following, as some of the objectives of teacher education;

- i.** To produce highly motivated, conscientious and efficient classroom teachers for all levels of our educational system.
- ii.** To encourage further the spirits of enquiry and creativity in teachers.
- iii.** To help teachers fit into social life of the community and the society at large and enhance their commitment to national goals.
- iv.** To provide teachers with the intellectual and professional background adequate for their assignment and make them adaptable to changing situations.
- v.** To enhance teachers' commitment to the teaching profession.

From the foregoing, one can see that teacher education occupies an importance position in the educational sector of Nigeria. That is why the government made provision for innovations for teacher education taking cognizance of changes in methodology, curriculum and providing opportunities for in-service training as to boost and encourage professional growth and development among teachers (Achuonye, 2007).

Presently in Nigeria, adequate preparation is made to improve teacher education through the establishment of colleges of education both at federal and state government levels. Institutes of education and faculties of education are also established in various universities to cater for effective and professional teacher education programme. Umar (2005) noted that in such institutions, students are trained to form habits that will help them become capable teachers who will shoulder responsibilities, be initiative and be of good conduct worthy of emulation to their future pupils.

In order to enhance the quality of teaching, the federal government prescribed the Nigeria certificate in education as the minimum qualification for teaching in the primary and junior secondary schools (FRN, 2004) Hitherto, Ajeyalemi (2008) noted that the minimum qualification for teaching in the primary school was the grade II certificate obtained from a five year post primary school course in the Grade II Teachers' College. The NCE is obtained after a three year post-secondary pre-service teacher education programme in a college of education. The universities are responsible for training teachers for the senior secondary at the basic level. This way be through a four year post-secondary or a three year post NCE or GCE, A' level. Graduates from these institutions are expected to be highly motivated, conscientious and efficient classroom teachers with intellectual and professional background adequate for all levels of the Nigerian Educational System (Maduewesi, 2005).

According to Ngada (2005), a nation without quality teachers is doomed and the cumulative effects of incompetent teachers would be non-development than development and at times national retrogression instead of advancement. Madueke (2007) pointed that since national development depends majorly on education, and teachers saddled with the responsibility of translating educational policies, it presupposes that teacher education be the priority of any nation wishing to develop in all fields of human endeavour. Umar (2005) posited that teacher education should be tailored towards developing the students' teacher to their full potential. Accordingly learning experiences offered to trainee teachers should be justified on grounds of utility and significance. To achieve this, facilities in teacher training institution must be adequate to enable appropriate training to take place. For this reasons, Ivowi (2006) stressed that teacher competency in terms of professional capacity building should be anchored on the following;

- i)** Subject matter - appropriate and relevant knowledge of facts, principles, concepts and laws needed to sustain cognitive knowledge of the students.
- ii)** Pedagogy – exposure and experience in principles and practice of education and in the art of teaching as an aid to meaningful learning.
- iii)** Skill processes – facilitate the development and acquisition of appropriate manipulative skills in students.
- iv)** Resourcefulness – improvisation of teaching aids of relevant descriptions, some measure of detection and maintenance/repairs of minor faults in teaching aids.
- v)** Behavior motivation – through appropriate behavior, mode of dressing and reaction to stimulate in the normal course of interacting with students with a view to stimulating interest in them.
- vi)** Evaluation – self and students' evaluation through appropriate construction of tests, their analysis and inferences.

Undoubtedly, teachers need broad background of courses and experiences if they are to be effective in the discharge of their responsibilities. Apart from fulfilling their traditional obligation, they are faced with systematic changes that call for new approaches in methods and materials.

According to Eberbe (2006), to boost quality in teacher production in Nigerian institutions, we need to;

- i)** Create classroom environment that encourage discovery learning.
- ii)** Present and reduce learning barriers and motivate students to be robust and strategic learners.
- iii)** Monitor comprehensively, students learning and progress in terms of skills acquisition.
- iv)** Instill creative and critical thinking in students.

If a teacher is well trained, he or she will be able to manipulate the available means to effectively train the students under his or her care. The students depend on the teacher on what to learn and how to learn it. As pointed out by Ivowi (2008) teaching must be handled by well trained and motivated persons with academic and professional competencies which will match the society's expectations. Teacher education demands that whatever it requires to ensure its goal actualization should be done without prejudice. Unfortunately educational provisions have not sufficiently match federal government commitment to give priority attention as emphasized in the National policy on Education (FRN, 2004). Necessary infrastructure, research facilities, teaching aids and other tools are not adequate to meet with rising population of students (Maduewesi, 2005).

There has been expansion in the different levels of education in Nigeria because of the general awareness that education aids in skills acquisition and the development of correct type of attitude towards people. For instance, the number of primary schools and the pupil's enrolment over the years have shown phenomenal increase. Presently, Nigeria has 49 Polytechnic, 62 colleges of Education and 98 universities (both public and private) FRN, 2008. As these institutions increase in number, the enrolment figures grow as well. The increase demand for university education Nigeria has made almost all universities in the country to over stretch their facilities. Adequate provision of school facilities in relation to the students' population is important because the quality of education that students receive is affected by the availability or non-availability of learning facilities (Adesina, 2006).

Aside from the problems of infrastructural facilities, learning in school has been found to be influenced by certain students' characteristics such as study habit, pedagogical knowledge achievement motivation, attitude to study and age (Darling-Hammond, 2005). According to Obi (2010) teacher education programme has not attracted vibrant students who are truly interested in the teaching profession. They usually admit candidates from among less bright school learners with poor academic background. These candidates are usually very reluctant to learn and lack interest and committed attitude to works. As Wentzed (2008) had stated, interest in academic matters tends to increase the likelihood that individuals formulate goals relating to specific activities and invest time and efforts towards the achievement of such goals. Students who aspire to adopt learning focused goals are likely to employ deep cognitive and self-regulatory strategies whereas students with ability focused goals tend to use surface level strategies (Wentzel, 2008). Cognitive self-regulatory strategies require that students should be actively involved in their learning task including analyzing the demands of the task, planning for and utilizing their resources for the achievement of the task (Wentzel, 2008).

In order for students to accept responsibility for their own learning, they must be motivated to succeed and must possess requisite skills and abilities to engage in appropriate self-regulated learning. According to Zimmerman (2007), self-regulated learners are aware of the information and skills they need to possess and hence take necessary steps to acquire them. It is also believed that subject matter interest has a strong and consistent impact on achievement motivation and students ability (Wentzel, 2008). If students don't appreciate the real essence of a course of study especially when they anticipate no satisfying benefits, they are not likely to get very deeply committed. This explains why remarkable improvement in academic performance is often noticed when a student changes from a course that has little meaning to him or her to the one that captures his or her interest.

The thrust of this study therefore is to determine the influence of learning environment and students' variable on academic achievement of undergraduates' students in selected core

education courses in the universities in River State, Nigeria. The study specifically explores three environmental variables namely, quality of teachers and instructional resources joint influence on academic achievement of undergraduate students in selected core education courses in the universities in River State.

### **Statement of problem**

In recent times, there have been repeated complaints over poor academic performance of students in Nigerian universities most especially students in teacher education programmes (UNESCO, 2002, and Obanya, 2009). Again there have also been complaints about the seemingly poor perception and lukewarm attitude towards education courses in the universities among undergraduates' students. This has often times influence academic achievement of many students admitted into teacher education programme. Previous studies have tended to attribute poor academic performance of students to teacher related variables such as commitment to teaching, teacher motivation of students, knowledge of subject matter, communication in class, students' evaluation among others (Essien, 2004, and Tella, 2008). Apart from external factors, Tallent and Spungiu (2009) had stated that achievement in any educational endeavour is influenced by one's personal characteristics such as study habit, attitude to course of study, achievement motivation, attribution etc.

While a great deal of efforts many have been devoted to the influence of environmental variables such as teacher quality, and instructional facilities, very little to the knowledge of the researcher may probably have been done on the influence of these environmental variables alongside students' variable that could exert significant influence on students' learning outcomes. Therefore the problem which this study seeks to address may be encapsulated in the following questions; how do environmental variables such as teacher quality and instructional resources jointly influence academic performance of undergraduate students in Core Education courses in the universities in River State.

### **Statement of hypotheses**

As a guide to this study, the following null hypotheses were formulated;

- i. There is no significant relationship between teacher quality and academic achievement of undergraduate students in core education courses in the universities.
- ii. There is no significant relationship between instructional resources and students' academic achievement in core education courses in the universities.

### **Teacher quality and academic achievement**

A school system is adjudged effective and of acceptable standard only to the extent its teachers meet the expectation and need of learners they are purposed to serve (Oyetunde and Umolu, 2003). According to Akingbola (2007) the direct consequences of poor quality teachers in school is poor learning outcome. Also Usman and Agwagah (2001) observed that behind every successful implementation of any curriculum project or policy are highly trained, motivated and efficient teachers. Therefore the success of any educational enterprise is determined primarily by the quality of its teachers. While there seems to be no common and agreed definition of what constitutes quality, it is very clear that quality is more often determined by outcomes in terms of standards, excellence, achievement etc rather than processes (quality of instruction, instructional materials etc). Gray (2000) listed four sets of criteria for assessing quality of educational provision. They include;

- i) Accessibility: with the central theme being social inclusion, this includes entry requirements, selection procedure, fee charges, curriculum flexibility etc.

- ii) Teaching and learning: this is central to quality in terms of processes, methods of teaching, learning and assessment, course materials, students' feedback, and student performance.
- iii) Students' achievement: this is most widely used parameter for measuring quality and most common performance indicators are based on test scores.
- iv) Validity: this is concern with relevance of the learning programme to its overall objective.

On their part, Fadipe (2003) and Awogwugwu (2006) described quality teachers in terms of their worth and appropriateness in achieving educational outcomes. According to Ukeje (2004) teachers are the hub of any educational system and the most critical intervening factor among factors that influence school quality. Silber (2008) puts it more succinctly when he noted that no matter what curriculum is used, what degree of equipment sophistication, what amount of instructional resources that are provided, the overriding factor for success is the quality of teachers. It is the teacher's ability to manipulate the teaching and learning environment that the desired outcomes are achieved.

According to Mbakwem (2005) teachers are classroom managers who have accepted the responsibility of being looked upon by others to guide activities of learning. For them to this effectively, they must be and knowledgeable and enthusiastic in the discharge of their duties. While learners may take the centre-stage in all school activities, teachers practically set that stage. Well prepared and highly motivated teachers facilitate the attainment of educational goals in general as well as achievement of objectives of teaching specific school subjects for which they are trained to handle (Ogunyemi, 2008). Achuonye (2007) noted that quality teaching is not just a process of transmitting information and skills to the learner, instead it is effectiveness in teaching which requires that teachers guide learners into acquiring information and skills they need for survival. Teacher quality therefore entails having broad knowledge, skills and pedagogy that would impact positively on learners (Achuonye, 2007).

The World Bank report (1999) had revealed that poor training of teachers and in adequate school facilities lead to poor Educational result. For Nwagwu (2002), the quality of students' performance and achievement are seriously determined by the standards of the teachers in terms of classroom instruction and managerial activities. These in turn are predicated upon by the quality of training which teachers received during their professional training. According to Welberg (2003) knowledge of specific subject matter pedagogy enables teachers to detect students' misconceptions and subject matter pitfalls. It also enables teachers to guide against unwarranted criticism of learners' responses.

Oyetoyinbo (2008) studied teacher factors as correlates of achievement in integrates science and found that teachers' mastery of knowledge of subject matter was a valid predictor of students' achievement in integrated science. In the same vein studies by Okeke (2007) and Owolabi (2009) revealed positive correlation between teachers' mastery of subject specific pedagogy and students' academic performance in biology and social studies respectively. According to Efebo (2005) a quality teacher undertakes three major components of teaching activities. These are preparation, execution and evaluation of teaching. At the preparation stage, the teacher plans the lesson he/she intends to teach. It includes all the activities that lead to putting a lesson together i.e. objectives, appropriate subject matter, logical sequencing of the subject matter in manner that learners can follow etc. The executive stage is where the teacher communicates the lesson to students and the evaluation stage deals with ascertaining the extent to which learning has taken place as well as appropriateness of teaching methods/strategies.

It is a truism that curriculum remains a major guide to classroom environment but another major complementary stakeholder is the teacher who is the curriculum implementer. Though the child is the centre of the educational system, teachers are the hub of the Educational process. It is upon their Education and training, their quality and devotion to duty, their competence that the entire Educational System depends (Ukeje, 2004) Excellent Educational policies are meaningless unless there are equally quality teachers to see to their realization. Therefore availability of quality teachers is a vital tool in assuring quality academic outcomes (Iyaiya, 2001). According to Ukeje (2004), achieving quality Educational outcomes implies that teachers must possess appropriate pedagogical skills and subject matter content. In the same vein, Lassa (2005) opined that Education cannot be provided by just anybody, it requires a teacher who plans and delivers the lessons or instruction in a way that educational objectives could be achieved.

A study by Oshodi (2007) on resource utilization and students' academic performance in secondary schools in Kwara State revealed that teacher quality was the most determinant factor of students' academic performance. Similarly, Darling – Hammond's (2005) study on the influence of qualification on students' learning showed that middle and high school students learn more from teachers who possessed high qualifications and experience than they do from teachers with low qualifications and little experience in teaching. Studies by Lankard & Baker, (2008) on the importance of education inputs in determining output lead to the conclusion that both out-of-school variables and school variables such as teachers influence learning outcome. Improving efficiency in learning, therefore, implies improving teacher's quality in terms of subject matter mastery, and pedagogical skills. According to Eberebe (2006), to achieve quality Education, teachers need to possess the abilities to;

- i)** Create classroom environment that encourages discovery learning.
- ii)** Prevent and reduce learning barriers and motivate students to be robust and strategic learners.
- iii)** Monitor students' learning and progress in terms of skill acquisition.
- iv)** Instill creative and critical thinking in students for optimal performance in academic tasks.

Mattos and Weber (2009) opined that every student can learn and that it is the responsibility of educators to make this a reality for every child. The teacher is therefore viewed as the trustee as far as the business of educating the child is concern. This simply means that attention should be paid to the role of teacher and teaching in the educational process. The statement in the national policy on education (2004) that no education system can rise above the quality of its teachers adds credence to this. Mamman and Piwedden (2006) are of the opinion that teachers are indispensable in the process of education in spite of the wonders of Information and Communication Technology (ICT).

According to them, the quality of teachers determines the quality of human resources in all sectors of the labour market. Madueke (2007) argued that since national development depends majorly on education, and teacher saddled with the responsibility of translating educational policies, its presupposes that teacher education should be a priority to every nation wishing to develop in all fields of human endeavour. A nation without quality teachers is doomed and the cumulative effect of incompetent teachers is non-development than development and at times national retrogression instead of progression (Ngada, 2005). The maxim that no education system that can rise above the quality of its teachers and that no nation can rises above the level of its teaching staff shows the importance of teachers in national

development. Iyaiya (2001) echoed this when he said education is the key to national development and only quality teachers hold the key and can turn it for national development.

According to Ngada (2005) the indices of quality in terms of teachers' capacity building are;

- i) Subject matter mastery – appropriate and relevant knowledge of facts, principles, concepts and laws needed to sustain cognitive knowledge of students.
- ii) Pedagogy – exposure and experience in principles and practices of education.
- iii) Skill processes – development and acquisition of appropriate manipulative skills and workshop practices where applicable.
- iv) Resourcefulness – competency in improvisation of teaching aids of relevant descriptions, some measure of detection and maintenance/repairs of minor faults in teaching resources
- v) Behavior motivation – through appropriate behavior, mode of dressing and reaction to stimuli in the normal course of interacting with students with a view to stimulating interests in them.
- vi) Evaluation – self and students' evaluation through appropriate construction of tests, their analysis and inferences.

In the opinion of Mbakwem (2005), since teachers are active agents in the dissemination of information and impartation of knowledge to students, they must be well versed in their subject matter pedagogy. According to him when teachers lack the requisite skills, learning is hindered and consequently poor academic performance. In the same vein, Aguokogbuo (2004) asserted that when teachers adopt wrong methods of teaching either because of lack of the requisite teaching skills or poor professional training, poor learning outcome is eminent. To achieve quality education, teacher needs broader background of courses and experience if they are to be effective in the discharge of their responsibilities. Apart from fulfilling their traditional obligations, they are faced with systematic changes that call for new approaches in methods and materials (Mbakwem, 2005).

### **Instructional resources and academic achievement**

Instructional resources constitute one of the most vital elements in the teaching/learning process. The important of using instructional resources is to assist in communicating permanently, information that are incidental to the process of learning (Eshiet, 2000). Since facts and information are more readily retained when supplemented with teaching aids, the chances are that if materials are skillfully used, they make learning more meaningful (Adeniyi, 2005)

According to Adeyanju (2003) instructional materials are devices through which teaching and learning are done in schools; they assist teachers in teaching/learning process hence are necessary ingredients in school curriculum development (Adeyanju, 2003). Esu (1995) alluded that ordinary word of verbalization has been found to be inadequate for effective teaching because it has failed to deliver the objectives of instruction in schools hence the need for instructional resources. These resources help learners to acquire and evaluate knowledge and skills. They also serve as channels through which messages, information, ideas and knowledge are disseminated (Oduntan, 2004). The common types of instructional aids include chalk, on marker board, supplemental print materials (photographs, drawing, cartoons, charts, graphs etc) video (passive on interactive), projected materials (motion pictures, film stripes, transparencies for overhead projection, multimedia projection); manipulative and computer-based aids. With these instructional resources, learners are able to hear, feel, and adjust conceptually (Esu, Erukoha and Umoren, 2004).



A popular Chinese educational practice Slogan states: I hear, I forget; I see, I remember, I do, I understand. This shows that if learners combine the use of the three senses- hearing, seeing and touching (doing) they are most likely to retain whatever has been taught to them. The importance of instructional resources in the teaching/learning process could be seen from the reasons advanced by NTI (2006) for their utilization. The reasons include;

- i)** They help to gain and hold attention of learners.
- ii)** They provide visual aspects to a process or techniques.
- iii)** Instructional aids help students to focus attention on highlight of key factors.
- iv)** They facilitate understanding of abstract concepts and limit the use of wordy explanations.
- v)** Instructional resources provide a common framework of experience to a large number of learners.

According to Kindler (2002) people, generally remember 10% of what they read, 20% of what they hear, 30% of what they see, 50% of what they hear and see, 70% of what they say, and 90% of what they say and do. This suggests that instructional resources ensure more effective learning since learners not only hear but also see and do. Kindler (2002) further pointed that instructional resources help learners in the following ways;

- i)** Arouse interest and thus positive attitude towards learning.
- ii)** Offer learners opportunity for independent and individualized learning, offer opportunity for development of functional knowledge and acquisition of manipulations skills.
- iii)** Provide opportunity for learners to interact with their social and physical environment.
- iv)** Supply concrete basis for conceptual thinking.
- v)** Promote longer retention of knowledge.

Ibe (2006) noted that instructional resources are invaluable in learning because they reduce abstraction and increase understanding, retention and attitudinal change. According to Madu (2004), the use of instructional resources enable learners to acquired basic manual skills, knowledge, values and problem-solving skills. Osofisan (2004) stated that instructional resources create lasting impressions in the minds of the learners and induce longer retention of factual ideas or concepts that are being discussed. They also induce observations and questions which are signs for the quest for information and knowledge.

Meremikwu (2007) carried out a study on the effects of instructional resources on students' achievement in mathematics in Calabar Education Zone, the study comprised two hundred and forty students with one hundred and twenty in the experimental group and the other remaining one hundred and twenty in the control group. Result of the study revealed that students taught mathematics with instructional resources were better achievers than their counterparts taught mathematics without instructional resources. Based on this, it was concluded that a properly planned lesson that is supported with instructional aids will enhance proper understanding and retention of mathematics concepts. Other studies on early childhood science education derived from instructional designs and interactive media confirmed that children learn more effectively when they are given extended time and multiple opportunities to touch, feel, analyze and interpret situations (Akinotolum, 2001, Eguabor, 2003, and Aprebo, 2005).

Okoh (2007) noted that students' zeal to learn increase when they are given opportunity to explore, initiate, interact and take decision on academic tasks. Eguabor (2003) opined that skillful utilization of instructional resources in teaching-learning process can turn a dull and

difficult lesson into a stimulating and interesting one. To Alamu (2009), instructional resources enable students to discover new knowledge, practice and sharpen cognitive skills and formulate concepts and principles in their own words. In the words of Onyejemezi (2008), instructional resources result in more effective learning of factual information and skills in less time than mere verbalization. According to Adeniyi (2006) when instructional resources are properly used they can accomplish seven objectives namely;

- They supply a concrete basis for conceptual thinking and reduce meaningless word responses of students.
- They make learning more permanent.
- They have a high degree of interest for students.
- They offer a reality of experience which stimulates self-activity on the part of students.
- They develop a continuity of thought.
- They contribute to growth of meaning and hence to vocabulary development.
- They provide experiences not easily obtained through other materials and contribute to the efficiency, depth and variety of learning.

### **Research Methodology**

**Research Design:** The ex-post facto research design was adopted in this study. The ex-post facto design allows the researcher to examine the independent variables in relation to the dependent variable. The choice of this design was based on the fact that the variables under study such as learning environment and students' variables had already occurred and so the researcher had no direct control over their occurrence. This is in consonance with the view of Kerlinger (1978) that sees ex-post facto as a research design basically for studying phenomena after they had occurred.

**Research Area:** The area of the study was Rivers State. Rivers State is one of the 36 states in Nigeria with Port-Harcourt as its Headquarter. Rivers State is bounded on the south by the Atlantic Ocean, in the north by Imo and Abia States, in the East by Akwa Ibom State and in the West by Bayelsa and Delta States.

**Population of the Study:** The population for this study comprised year two education students in the university of Port-Harcourt and Rivers State University of Science and Technology. According to the 2010/2011 enrolment records, obtained from Academic Planning Units of the two Universities, there are one thousand four hundred and twenty two (1422) year two education students in the University of Port-Harcourt and nine hundred and fifty one students (951) in Rivers State University of Technology. These students are in different departments in the Faculty of Education of the two universities.

The University of Port-Harcourt has four departments namely; Curriculum and educational technology, Educational administration, Educational management and Adult and non-formal education. The Rivers State University of Science and Technology has three departments namely Curriculum and Technology Education, Educational Management, and Adult and Community Education.

**Sampling Techniques:** The stratified random sampling technique was adopted in this study. The stratified sampling was employed because of the heterogeneous nature of the subjects. Stratification was on the basis of departments and gender. Thus, the university of Port-Harcourt had six strata, four of which were for the departments and two for gender. The Rivers State University of Science and Technology (RSUST) had five strata, three for the departments and two for gender from each department, 60% of the subject were selected through random sampling techniques of balloting with replacement. Thus in the university of Port Harcourt 190

respondents were drawn from the department of Curriculum and Educational Technology, 210 respondent from Educational administration, 208 from educational management and 240 respondents from Adult and non-formal education.

In the Rivers State University of Science and Technology, 167 respondents, were drawn from the department of Curriculum and Technology Education, 179 from Educational Foundations and Administration and 224 respondents from the department of Adult and Community Education. In all, 848 respondents were selected from the University of Port Harcourt and 570 from the Rivers State University of Science and Technology. This gave a total of 1,418 respondents.

**Research Instruments:** Two instruments were used for gathering data for this study. They are:

- i. Learning Environment and Students' Variables Questionnaire (LESVQ).
- ii. Core Education courses Achievement Test (CECAT)

### **Learning Environment and Students' Variables Questionnaire (LESVQ)**

This was 36 item questionnaire designed by the researcher to elicit information on learning environment and students' variable and their influence on students' academic achievement in core education courses. The instrument comprises subscales; A, B, C, D, E and F with G items to measure each sub-variable. The sub-variables on learning environment are quality of teachers, instructional resources and class size. The students' variables are study habit, achievement motivation, gender and attitude. The items in each of these subscales are structured in four point likert-type response options of strongly agree (SA), agreed (A), disagree (D) and strongly disagree (SD). Respondents were expected to tick against any of the options as the items appeal to them.

### **Core Education courses Achievement Test (CECAT)**

This was a sixty item multiple choice objective test designed by the researcher to measure student's achievement in Core Education courses. The courses are educational technology, curriculum development and psychology of education. The content areas covered were selected from the course outline for each of the core education courses. Three topics each for educational technology, curriculum studies and psychology of education were selected giving a total of nine topics. This presents 60% of the total course outline. The topics were system approach to instructions, processes of communication, media production, curriculum pattern, curriculum development, and curriculum evaluation, theories of learning, motivation and retention. Each test item had one correct answer and three detractors giving a total of four options. Respondents were expected to choose the correct answer from the four options (A-D) provided.

### **Procedure for Data Collection**

The researcher sought for permission from the Deans of the Education faculties of the two universities that the study was carried out. Also heads of the various Departments were contacted and their permission sought. They were intimated about the study and the need for their understanding and co-operation to enable the researcher achieve the purpose of the study. The course lecturers assisted in administering the research instruments. The respondents were told that the exercise was purely for research and that all information supplied will be treated in absolute confidence. The learning environment and students' variables questionnaire (LESVQ) was administered first to the respondents, followed immediately by Core Education Course Achievement Test (CECAT). At the end of the exercise, the research assistants help to retrieve the completed copies of the instruments. In particular the LESVQ and CECAT for each respondent were tied together for easy identification and scoring.

## Result and Discussion

This section presents the result of the data analysis. The findings that emerged as well as discussions are presented hypothesis by hypothesis. Each of the hypotheses was tested at 0.05 level of significance.

### Hypothesis 1

There is no significant relationship between teacher quality and students' academic achievement in Core Education Courses (Curriculum Studies, Educational Technology and Curriculum studies). The independent variable is teacher quality while the dependent variable is academic achievement in Core Education Courses. The analysis of this hypothesis by Pearson Correlation Statistics is shown in table 1.

**Table 1: Inter correlation matrix among teacher quality and students' academic achievement in Core Education Courses (N = 1418)**

Variables	Teacher quality	Edu. Tech.	Curr. Studies	Edu. Psychology
Teacher quality	1.00	.156*	.118*	.198*
Edu. Tech.		1.00	.232*	.214*
Curriculum studies			1.00	.252*
Edu. Psychology				1.00

\*Significant at .05 level of significance, r-critical = .062\*; df = 1416

Table 1 show that all the bivariate Pearson Correlation Coefficients are significant at .05 level of confidence for the 2-tailed test with r-critical value 0.062 and 1416 degree of freedom. Since each of the calculated pair-wise correlation coefficients is greater than the critical r-value of .062 at .05 levels for the two-tailed test, it follows that there is a significant position relationship between teacher quality and students' achievement in the Core Education Courses. With this result, the null hypothesis was rejected and the alternate upheld.

### Hypothesis 2

There is no significant relationship between instructional resources and students' academic achievement in Core Education Courses. The independent variable is instructional resources while the dependent variable is academic achievement in Core Education Courses. The analysis of the data by means of bivariate Pearson Correlation Statistics is shown in table 2.

**Table 2: Inter correlations matrix among instructional resources and students' academic achievement in Core Education Courses N = 1418**

Variables	Instructional resources	Edu. Tech.	Curriculum	Psychology
Teacher quality	1.00	.82*	.081*	.070*
Edu. Tech.		1.00	.232*	.214*
Curriculum			1.00	.252*
Edu. Psychology				1.00

\*Significant at .05 level of significance, r-critical = .062\*; df = 1416.

Table 2 reveals that the bivariate Pearson Correlations are significant at .05 level of significance for the two-tailed test, with critical r-value .062 and 1416 degrees of freedom since

in all the pair wise correlations the calculated r-values are greater than the critical r-value, .062 at .05 alpha level for the 2-tailed test, it follows that there is a significant positive relationship between instructional resources and students' academic achievement in curriculum studies and Educational Psychology with exception of Educational Technology. With this result the null hypothesis is rejected with respect to instructional resources versus academic achievement in curriculum studies and instructional resources versus academic achievement in Educational psychology but not with instructional resources versus academic achievement in Educational Technology.

## **Discussion of results**

### **Teacher quality and academic achievement**

The first hypothesis which states that there is no significant relationship between teacher quality and students' academic achievement in Core Education Courses was rejected indicating that there is significant positive correlation between the quality of teachers and academic achievement in Core Education Courses. This result is in consonance with the views of Agwagah (2001) that behind every successful implementation of any curriculum are highly trained and efficient teachers. By demonstrating beneficial influence of teacher quality on academic achievement, this study has further authenticated the observations by several researchers and authors. In particular, Nwagwu (2002) noted that the quality of students' academic achievement is determined by the standard of teachers in terms of classrooms instructions and competencies.

The findings of this hypothesis re-affirmed the views of Ukeje (2004) that it is upon teachers' Education and training, their quality and devotion to duty, their competence that the entire educational system depends. The significant positive correlation between teachers' quality and academic achievement implies that the teachers are well versed in their various subject pedagogies. According to Aguokogbno (2004) when teachers adopt wrong methods of teaching either because of lack of requisite teaching skills or poor professional training, poor learning outcome is eminent. According to Mbakwen (2005) teachers are classroom managers who have accepted the responsibility of being looked upon by others to guide activities of learning. For them to do this effectively, they must be knowledgeable in the discharge of their duties. Although learners take the centre-stage in all school activities but teachers practically set that stage. Setting the stage effectively requires that teachers possess broad knowledge, skills and subject matter pedagogy that would enable them impact positively on learners. As Efebo (2005) had noted, a quality teacher undertakes three major components of teaching activities namely preparation, execution and evaluation of teaching. At preparation stage, the teacher plans the lesson he/she intends to teach which encompasses lesson objectives and logical sequencing of subject matter. The execution stage is where the teacher communicates the lesson to students and the evaluation stage deals with ascertaining the extent to which learning has taken place as well as appropriateness of teaching strategies.

### **Instructional resources and academic achievement**

The second hypothesis which assumed a non-significant relationship between instructional resources and academic achievement in Core Education Courses was rejected with respect to instructional resources versus academic achievements in curriculum studies and educational psychology but upheld for instructional resources versus academic achievement in educational technology. The findings give credence to the views of Kindler (2002) that people generally 10% of what they read, 20% of what they hear, 30% of what they see, 50% of what they hear and see, 70% of what they say and 90% of what they say and do. This suggests that instructional resources ensure more effective learning since learners not only hear but also

see and do. The significant positive relationship between instructional resources versus academic achievements in curriculum studies and Educational psychology is in line with the earlier work of Meremikwu (2007) whose study on the influence of instructional resources on academic achievement in mathematics in Calabar Education zone revealed that students taught mathematics with instructional resources were better achievers than their counterparts taught without instructional resources. In the views of Osofisan (2004) instructional resources create lasting impressions in the minds of learners and induce longer retention of factual ideas or concepts that are being discussed. In the same vein, Okoh (2007) pointed that students' zeal to learn increase when they are given opportunity to explore, initiate, interact and take decisions on academic tasks.

The non-significant positive correlation between instructional resources and academic achievement in Educational technology may not be unexpected because Eshiet (2000) and Adeniyi (2005) have noted that meaningful learning is ensured only when materials are skillfully used. Therefore teacher's misuse of instructional resources could create negative impact on academic performance of students and consequently poor academic achievements. Iyaiya (2001) echoed this when he said teachers need adequate knowledge of instructional resources for them to function effectively in the classrooms. Apart from fulfilling their traditional obligations, they are faced with systematic changes that call for new approaches in methods and materials utilization.

### **Summary of the study**

The primary purpose of this study was to determine the influence of learning environment and students variables on academic achievement of undergraduate students in Core Education Courses namely curriculum studies, educational psychology and educational technology in University of Port Harcourt and Rivers State University of Technology. Specifically, the study sought to establish the extent to which some identified environmental variables such as teacher quality, and instructional resources influence academic achievement in Core Education Courses. The relative predictive strength of these variables on student's academic achievement in the Core Education Courses was also ascertained. In pursuit of these, two hypotheses were formulated to guide the study. An ex-post facto research design was adopted for the study because the researcher had no direct control over the independent variables. Hence, learning environment and students' variables as dependent variables were not manipulated in examining their relationship with students' academic achievement in the Core Education Courses.

The population of the study comprised year two Education students in University of Port Harcourt and Rivers State University of Science and Technology in 2009/2010 academic session. The sample for the consisted of 612 males and 806 females giving a total of 1418 respondents. These were drawn from the different departments in Education faculties, University of Port Harcourt and Rivers State University of Science and Technology through stratified sampling method. Two instruments namely Learning Environment and Students' Variables Questionnaire (LESVQ) and Core Education Courses Achievement Test (CECAT) were used to collect the data for the study.

The data obtained were coded and analyzed using, Pearson Product moment correlation, independent t-test and regression. The following were the findings;

- i) There is significant positive correlation between teacher quality and students' academic achievement in the Core Education Courses (Curriculum studies, Educational Psychology and Educational Technology).
- ii) A significant positive relationship exists between instructional resources and students' academic achievement in curriculum studies and educational psychology

but not between instructional resources and academic achievement in Educational Technology.

### Conclusion

From the results of data analysis and the findings that emerged from the study, the following conclusions were drawn.

- i. Students' academic achievement in the Core Education Courses is significantly influenced by teacher quality, instructional resources, achievement motivation, study habits and attitude.
- ii. Variation exists among the learning environment and students' variables in their relative strength in predicting achievement in the Core Education Courses.

### Recommendations

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

- i) Teacher-quality in Universities should be improved and sustained through regular financial support to academic staff to attend conferences workshops, seminars and in-service training. This will acquaint them with emerging trends in subject specific pedagogy.
- ii) Teacher trainees should be exposed continually to challenging life situations about the benefits of teacher education. This will help to shape their attitude positively towards teacher Education.
- iii) Parents and teacher should endeavour to discourage gender stereotyping in courses offered in universities particularly education courses since the present study did not show any significant gender disparity in achievement in the Core Education Courses.
- iv) Government as well as organized private sector should as much as possible support universities through provision of instructional resources to boost teaching and learning.

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