



Effect of Virtual Learning on the Students' Achievement and Interest in Philosophy in Tertiary Institutions, Southeast Nigeria

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ABSTRACT

The modern system of using internet in teaching and learning is receiving great attention in the world over. This study investigated the effect of virtual learning on the students' achievement and interest in Philosophy in tertiary institutions in southeast, Nigeria. Quasi-experimental research design of a pre-test, post-test and non-randomized experimental-control group design was adopted and a multi-stage purposive sampling technique was employed. The students were grouped into two; an experimental group and a control group. Two instruments were constructed for data collection; PAT and PIT. The descriptive statistics of mean and standard deviation were used to answer the research questions and data analysis carried out using the Z-test statistic to test the null hypothesis generated from the study at a 0.05 level of significance. Findings revealed that virtual learning technique significantly enhanced the academic achievement and interest of students in Philosophy. The study concluded that students who learn through virtual learning have more enrich information and comprehension about Philosophy and thus recommend that virtual learning technique should be adopted for the teaching and learning of Philosophy among other recommendations. The findings of the study were generalized to both the States and the Federal Education Boards, the school managements, the teachers, the students and the future researchers in the Southeast Nigeria.

Key words: Virtual Learning, Achievement, Interest, Philosophy, Tertiary Institutions, Southeast

1. Introduction

Education as a process of acquiring knowledge links us well to learning as the process of acquiring new knowledge, behavior, skills, values, attitudes, understanding and preferences. The ability to learn is processed by humans, animals and some machines (Wikipedia, 2023). The process of learning may take different dimensions, techniques and strategies. The epoch of the teacher being a reservoir of knowledge has passed. The world is moving at a jet speed as a result of advances in modern technology. Technology entails information and communication which may be defined as the handling and processing of information (texts, images, graphs, instruction, etc) for use by means of electronic and communication devices such as computer, cameras, telephones, etc (Ozaji, 2003).

Philosophy was considered alongside other sciences with its own special subject as the study of a special principle uniting the world (substance), the nature of the divine, human soul, virtue and evil. Also, all social sciences as the study of political life, the principles of organization of society, and so on, were usually attributed to philosophy (Heidegger, 2007). Philosophy means thinking as hard and as clearly as one can about some of the most interesting and enduring problems that human minds have ever encountered. Some of these problems have been discussed since ancient times. What makes acts right or wrong? As a course studied in tertiary institutions, Philosophy is one of the most logical and practical courses one can study. Philosophy can be abstract and theoretical. But the study of philosophy can be practical in that it affects what you do with your life. This is because the abstractions and theories pertain to the basic concepts and values with which you confront experience. Philosophy is inevitably technical. The philosopher constructs arguments, theories, positions, or criticisms in an attempt to persuade his or her most intelligent and perceptive opponents. The teaching and learning of this discipline in institutions cannot be overemphasized.

Virtual learning is not a new phenomenon in the promotion of education in some parts of the world. Currently, some Nigeria institutions use it to promote virtual learning and lifelong learning. Virtual learning is about learning with computers. Virtual learning refers to an environment where students study a digital-based curriculum taught by instructors that lecture online via video or audio. The instruction can take place either in a self-paced (asynchronous) environment or in a real time (synchronous) environment (Cousera article, 2023). Virtual learning uses digital technology to improve the teaching and learning process. Virtual learning has resulted in the development of new instructional techniques. Virtual learning environments have been associated with formal learning and with relationship between teachers, students, and school. There is an increasing interest in the Virtual learning environments supported by the internet, namely among education institutions, students and teachers.

The concept of Virtual Learning Environment (VLE) could be considered as dynamic concept due to the constant evolution of digital technologies, to its features, potentialities and to the importance that such environments have within the learning processes (Alves, Miranda and Morais, 2017). Virtual learning includes both visual and audio-visuals materials. Visual materials are those physical equipments which include posters, flash cards, models, real objects and so on. While audio-visual materials include those materials that combine the visual (sight) and audio (hearing) senses. These include television, films, and slide projector and so on. To attain an effective and quality instructional delivery of Philosophy for the benefit of both the teacher and the students, an appropriate use of a judicious mix of print, audio, visual, audio-visual and other virtual learning materials is required. These materials include; webinars, video or audio lectures, books, articles and other writings, podcasts, instructional videos, distance learning degree programs, professional certification courses, online digital classes, filmstrips, slides, projectors, radio, graphs, tape-recorders and televisions (Okam, 2013).

This new teaching and learning approach offers potential values to traditional teaching and learning approach due to its flexibility and accessibility of information to a great number of students at a time (Naqvi, 2012). Application of Virtual learning facilities to teaching and learning of Philosophy in tertiary institutions provide productive teaching and learning which increases students' creative and intellectual resources and give exceptional opportunities to both the teachers and the learners in order to develop capacities for high quality learning and to increase their ability to innovate in the field of Philosophy. Virtual learning increases flexibility of delivery of Philosophy instructions so that learners can access knowledge anytime and from anywhere. It can influence the way students are taught Philosophy and how they learn as now the process is learner-driven and not by teachers. This in turn would better prepare the learners for lifelong learning as well as improve the quality of learning (Adu, 2013). Virtual learning is a cost-effective solution that allows students to interact with instructors and classmates in real-time. Its essence is to improve students' academic achievement and performance in order to meet standards, acquire knowledge and graduate to personalize learning, to better the needs of all students for both low achievers and high achievers in diverse learning needs.

Achievement comes as a result of enhanced or improved learning. It is the extent to which a student has achieved either short or long term educational goals (tophat.com, 2023). Achievement maybe measured through students' grade point average in examination or continuous assessments in academic settings.

Interest on the other hand, influences learning. According to Lee and Durksen (2018), academic interest is broadly defined as personal orientation towards activities that are intended to develop one's academic skills and knowledge. Interest is an important variable in learning because when one become interested in an activity, one is likely to be more deeply involved in that activity. Interest is a subjective feeling of concentration or curiosity over something. Interest is the preference for a particular type of activity, that is, tendency to seek out and participate in certain activities to the exclusion of others (Akusoba and Okeke, 2009).

1.1. Statement of Problem

The modern system of using internet in teaching and learning is receiving great attention in the world over. The use is phasing out the traditional method of teaching which is limited to chalk and talk system of teaching and learning (Olibie, Ezoem and Ekene, 2014). During the outbreak of corona-virus (Covid-19) pandemic, many advanced countries continued their academic programme through online programme. However, in Nigeria, many were lamenting that schools should be open to meet up with the academic calendar in the heat of that crisis. This indicates a very wide gap between developed and developing countries and the need for international standard. The emergence and diffusion of new Information and Communication Technologies (ICTs) have triggered an unstoppable revolution in education, particularly in the areas of teaching and learning. Internet has further accelerated the revolutionary pace, including improving virtual learning. Amidst this deadly virus spread of 2019, such online platforms are needed where (a) video conferencing with at least 40 to 50 students is possible, (b) discussions with students can be done to keep classes organic, (c) internet connections are good, (d) lectures are accessible in mobile phones also and not just laptops, (e) possibility of watching already recorded lectures, and (f) instant feedback from students can be achieved and assignment can be taken (Basilaia, Dgebuadze, Kantaria and Chokhnelidze, 2020).

The expansion of online courses and enrollment in elementary, high school and tertiary education has rapidly expanded with no prove of reduction. Online learning appeals to diverse populations of students with ranging academic needs that traditional education classes are deficient or not capable of achieving (Ihama and Eguasa, 2021). The demand for online courses is a derivative of the push "to deliver superior education to all students, regardless of location and time". The need for flexible learning environments for potential learners who are hospitalized, have phobias linked to school environments. Single parents have been expelled, dropouts seeking to gain a diploma and many other specific cases have led to a growth in the amount of distance learning courses and programs that are offered (Chaney, Chaney and Eddy, 2010). Online learning or online education provides students with excellent opportunities to communicate individually with their learning materials, learning resources and tutors. Educational objectivity is a problem that is often called into demand. In classifying academic consistency or lack of an online course, it is critically significant to identify the various diversifies of designs that online education can be conveyed; the multitude of topics online courses can impart, and the ever-growing population of learners (Bowen, Chingos, Lack and Nygren, 2014). Related research on online teaching and learning shows that they are effective if and only if there are adequate and available e-learning facilities; computers, GSM phones, projectors, consistent internet services, and if teachers received sufficient training and supports for online instruction. These essential requirements for a productive and successful virtual learning have been largely absent in the educational system in Nigeria.

1.2. Objectives of the Study

This research intended to investigate the effect of virtual learning on the students' achievement and interest in Philosophy in tertiary institutions in southeast, Nigeria.

Specifically, the study sought to:

- Determine the effect of virtual learning on the achievement of tertiary institution students in Philosophy.
- Examine the effect of virtual learning on the interest level of tertiary institution students in Philosophy.

1.3. Research Questions

The following research questions guided the study:

- How would exposure to virtual learning affect the achievement of students taught Philosophy using virtual learning technique and those taught using conventional method?
- To what extent does the interest level of students taught Philosophy using virtual learning technique differ from those taught using conventional method?

1.4. Research Hypothesis

- H_0 : There is no significant difference between the mean achievement score of students taught Philosophy using virtual learning technique and those taught using conventional method.
- H_1 : There is no significant difference between the mean interest level of students taught Philosophy using virtual learning technique and those taught using conventional method.

2. Literature Review

The review of related literature was on the subject of study, and the key concepts for the purpose of conceptual explanations, clarification and better understanding of the objectives of this study.

2.1. Virtual Learning

Virtual learning is an online learning environment that allows for face-to-face interaction between tutors and learners as they engage in learning activities (Rachang, 2018). It is referred to as learning that can functionally and effectively occur in the absence of traditional classroom environment. According to Olawale (2013) virtual learning include materials used to facilitate learning for better results. Uzuegbu, Mbadiwe and Anulobi (2013) noted that this transition from face-to-face to a blended or online method of creating a suitable learning environment for students, challenges the instructor on a professional level and many are concerned about the change in roles and responsibilities, use of technology, relationships, presence, and a perceived lack of prestige. It creates a virtual environment which allows students who are in different locations geographically to interact and also experience similar virtual learning worlds.

2.2. Philosophy

Philosophy is part of the cultural background of any educated person, and nevertheless remains spiritual, fundamentally underdetermined in its own essence. As a field of study, philosophy is one of the oldest disciplines. It is considered as a mother of all the sciences. In fact, it is at the root of all knowledge. Education has also drawn its material from different philosophical bases. The word 'Philosophy' literally means 'Love of Wisdom'. It is derived from two Greek words i.e. 'Philos' (Love) and 'Sophia' (Wisdom). This tells us something about the nature of philosophy, but not much, because many disciplines seek wisdom. Since times immemorial, there have been various pursuits for unfolding the mystery of the universe; birth and death, sorrow and joy. Various ages have produced different thoughts throwing light upon the mystic region. The ultimate truth is yet to be found out. This eternal quest for truth, lends the origin of philosophy. A love of wisdom is the essence for any philosophy investigation.

Philosophy is a systematic study of general and fundamental questions concerning topics like existence, reason, knowledge, value, mind, and language. It is a rational and critical inquiry that reflects on its own methods and assumptions (Wikipedia, 2024). Education, like philosophy is also closely related to human life. Therefore, being an important life activity, education is also greatly influenced by philosophy. Various fields of philosophy like the political philosophy, social philosophy and economic philosophy have great influence on the various aspects of education like educational procedures, processes, policies, planning and its implementation, from both the theoretical and practical aspects (Chandra and Sharma, 2004).

2.3. Academic Achievement

Achievement measures the extent to which the learner has learned. It entails the academic performance of students usually measured through students' grade point average in examination or continuous assessments in academic settings. According to Okoli and Okeke (2018), academic achievement refers

to the accomplishment of academic goals, the educational outcome of students, or rather, the extent to which a student, a teacher, or an instructor has achieved the stated educational objectives.

Academic achievement broadly refers to the communicative (oral, reading, writing), mathematical, science, social science and thinking skills and competencies that enable a student to succeed in school and society (Borsato, 2006). The students' achievement is produced by several inputs in the educational process (Wobman, 2004). Such inputs, he said, include these but are not limited to student's family background characteristics, class size, availability of teaching and teacher's learning materials and teacher's characteristics. To him, teacher's qualification and experience are not the only factor responsible for student's academic achievement. In this study, achievement is the scores obtained by the students in an achievement test.

2.4. Academic Interest

Interest is a powerful motivational process that energizes learning, guides academic and career trajectories, and is essential to academic success (Harackiewicz, Smith and Priniski, 2016). Again, they wrote that interest is also a psychological state of attention which aims towards a particular object or topic, and an enduring predisposition to reengage overtime.

Relating to education, interest is characterized by adequate attention and participation in instruction and academic activities. Interest in Philosophy can be seen as the drive to carry out academic tasks or activities relating to the teaching and learning of Philosophy. When students are connected with their course of interest, engagement becomes effective and they tend to invest more time and effort in learning. Nwagbo and Okoro (2012) indicated that students' interest and achievement can be influenced by innovative teaching methods such as constructivist instructional approaches. In the light of this, this study sought for better teaching methods that will enhance students' achievement and promote their interest.

3. Research Methodology

For the purpose of this study, Quasi-experimental research design of pre-test, post-test and non-randomized group design was adopted which would be conducted in the southeast Nigeria. Quasi-experimental research design permits the use of natural or intact groupings of the subjects. Hence, the researcher studied carefully the effect of virtual learning on the students' achievement and interest in Philosophy in tertiary institutions in southeast, Nigeria. Southeast is comprised of five states: Abia, Anambra, Ebonyi, Enugu and Imo states.

A multi stage sampling technique was employed to select the sample size. A purposive sampling technique was used to sample out three (3) states from the five states in southeast Nigeria; Anambra, Enugu and Imo states. Then, a simple random sampling technique was used to select one (1) institution each from these three states for this study; Nnamdi Azikwe University, Awka (UNIZIK) from Anambra, University of Nigeria, Nsukka (UNN) from Enugu and Imo State University, Owerri (IMSU) from Imo. In the final stage of the sampling, the second year students' class of Philosophy department was selected. Intact classes consisting of both males and females were used to form the subject of the study. They were grouped into two; the experimental group and the control group. The students who were taught using virtual learning resources served as the experimental group while those who were taught using the conventional method served as the control group for this study. UNIZIK having the total population of seventy-six (76) second year students of Philosophy, UNN total of ninety-four (94) and IMSU total of eighty (80) students, the total population for this study comprised of all the two hundred and fifty (250) second year students of Philosophy department of these three institutions.

Instruments for data collection titled 'Philosophy Achievement Test (PAT)' and 'Philosophy Interest Test (PIT)', designed by the researcher were subjected to validation and the test items were constructed from the curriculum course content of the second year students. The pre-test was administered to the students in both experimental and control groups before treatment to determine students' previous knowledge on the said topics. After one week, the post-test was also administered to the students in both groups on the same topics. From their scores, the pre-test and post-test scores were generated by the researcher from the PAT and the PIT. The reliability of the test items was established using the Pearson Product Moment (PPM) Correlation Coefficient. The result obtained was 0.75 which shows a high relationship and the reliability of the instruments for the study.

The descriptive statistics of mean and standard deviations were used to answer the research questions, while the Z-test statistic was used to test the research hypothesis at 0.05 level of significance.

4. Results

Data collected from the pre-test and post-test was analyzed using mean and standard deviation to provide answers for the research questions, while Z-test statistic was employed to test the null hypothesis of the study at a 0.05 level of significance.

Research Question 1:

How would exposure to virtual learning affect the achievement of students taught Philosophy using virtual learning technique and those taught using conventional method?

Table 1: Difference in the Students' Pre-test and Post-test Mean Achievement Scores

Groups	N	Pre-test Mean	SD	Post-test Mean	SD	Diff in Mean Gain
Experimental Group	125	22.5	5.7	29.5	4.4	7
Control Group	125	21.2	4.7	26.8	4.2	5.6
Diff in Mean Gain		1.3		2.7		1.4

Table 1 shows that the mean gain on achievement from the experimental group was 7 and 5.6 for control group with a difference in mean gain by 1.4, having their standard deviation as 4.4 and 4.2 respectively. The result indicated that the experimental group differed significantly from the control group in their mean achievement scores. This difference is in favor of the experimental group which shows high level of students' achievement in the group.

Research Question 2:

To what extent does the interest level of students taught Philosophy using virtual learning technique differ from those taught using conventional method?

Table 2: Difference in the Students' Pre-test and Post-test Mean Interest Scores

Group	N	Pre-test Mean	SD	Post-test Mean	SD	Diff in Mean Gain
Experimental Group	125	18.1	4.6	22.7	4.4	4.6
Control Group	125	14.8	4.1	17.9	3.9	3.1
Diff in Mean Gain		3.3		4.8		1.5

From the Table 2 above, the mean gain on achievement from the experimental group was 4.6 and 3.1 for control group with a difference in mean gain by 1.5, having their standard deviation as 4.4 and 3.9 respectively. The result indicated that the experimental group differed significantly from the control group in their mean achievement scores. This difference is in favor of the experimental group, indicating a high interest level of students in the group.

Research Hypothesis 1:

H₀: There is no significant difference between the mean achievement score of students taught Philosophy using virtual learning technique and those taught using conventional method.

Table 3: Z-test Computation of Post-test Mean Achievement Scores of Students taught with VLE and Conventional Method

Group	N	Mean	SD	DF	Prob.	Z-Cal	Z-Crit	Decision
Experimental Group	125	29.5	4.4					
Control Group	125	26.8	4.2	248	0.05	5.0	±1.96	Reject H ₀

Data in Table 3 above shows that the students taught Philosophy using virtual learning techniques had higher mean achievement score of 29.5 compared to the students taught using conventional method with mean achievement score of 26.8. The z-calculated value of 5.0 is greater than the z-critical value of 1.96 at 0.05 level of significance. Therefore, we rejected the null hypothesis and accepted the alternative hypothesis indicating that there is a significant difference between the mean achievement score of students taught Philosophy using virtual learning technique and those taught using conventional method.

Research Hypothesis 2:

H₁: There is no significant difference between the mean interest level of students taught Philosophy using virtual learning technique and those taught using conventional method.

Table 4: Z-test Computation of Post-test Mean Interest Scores of Students taught with VLE and Conventional Method

Group	N	Mean	SD	DF	Prob.	Z-Cal	Z-Crit	Decision
Experimental Group	125	22.7	4.4					
Control Group	125	17.9	3.9	248	0.05	8.9	±1.96	Reject H ₀

Data in Table 4 above shows that the students taught Philosophy using virtual learning techniques had higher mean interest score of 22.7 compared to the students taught using conventional method with mean interest score of 17.9. The z-calculated value of 8.9 is greater than the z-critical value of 1.96 at 0.05 level of significance. The null hypothesis therefore, was rejected, and we accepted the alternative hypothesis indicating that there is a significant difference between the mean interest level of students taught Philosophy using virtual learning technique and those taught using conventional method.

5. Discussion of Findings

The findings of this study indicated that an effective use of virtual learning techniques can enhance students' academic achievement and their interest in philosophy in tertiary institutions. The result distinctly shows that the use of virtual learning techniques significantly enhanced the students' academic achievement in the learning of Philosophy compared to the conventional method (Table 1).

The study also tested the interest level of students in Philosophy (Table 2) and found out that the mean interest score of the experimental group differed significantly from the control group. The result clearly shows that the use of virtual learning facilities in the teaching and learning of Philosophy triggers more the interest of the learners on the subject.

A Z-test statistic computation of Post-test for hypotheses I and II were carried out, having the z-calculated value as 5.0 and 8.9 for mean achievement scores and mean interest scores respectively. With the z-critical value as ± 1.96 , the null hypotheses were rejected and we accepted the alternative hypotheses which indicate that there were significant differences between the mean achievement and the mean interest level of students taught Philosophy using virtual learning technique and those taught using conventional method. The results help to explain clearly that availability of virtual learning facilities is essential in the teaching and learning of Philosophy in tertiary institutions.

Recommendations

The following educational recommendations are made:

- A computerized teaching, in addition to traditional methods should be employed in teaching and learning of Philosophy in tertiary institutions.
- There should be compulsory training and re-training for teachers and students on the use of virtual learning tools.
- Government, non-governmental agencies and private organizations should endeavor to facilitate the use of virtual learning techniques in institutions through the provisions of the essentials facilities needed.

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