
Effect of Technology Supported Instructional Platforms on Undergraduate Students' Attitude towards Educational Technology in Public Universities in Nigeria

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ABSTRACT

Attitude is one of the major factors in the teaching and learning process. Social media teaching cannot replace the conventional teaching methodology in education but rather it supports, complements and enhances its effectiveness. Despite the technological advancements in the teaching sector and the educational benefits of social media, developing countries like Nigeria are yet to fully adopt the use of social media in an educational setting. Several studies have been carried out on attitude of students towards the use of information and communication technology for learning purpose but there seems to be inadequate studies on the impact of technology supported instructional platforms. Therefore, this study aimed to investigate the effect of technology supported instructional platforms on undergraduate students' attitude in Educational Technology. The study adopted a quasi-experimental research design. The target population was selected from second year educational technology students. Simple random sampling technique was used to select three out of the five public universities offering educational technology in Nigeria. From the selected universities, experimental and control groups of respondents were purposively selected. In the experimental group, there were 180 respondents while in the control group, there were 120 respondents who were purposively selected to participate in the study owing to characteristics of interest. Data gathered were analyzed using both descriptive and inferential statistics. The results revealed that a significant difference exists in the mean attitude response score of the experimental group one and control group ($P < 0.05$ level of significance ($P = .033$). There was also a significant difference between experimental group two and control group in their attitude response towards educational technology after teaching them with technology supported instructional platforms and lecture method ($P < 0.05$ level of significance ($P = .024$). Therefore, the study recommends that technology supported instructional platforms

should be incorporated into the major teaching strategies for Educational Technology courses in public universities in Nigeria.

Keywords: *Technology supported platforms, instructional platforms, educational technology platforms, Facebook supported platforms, WhatsApp supported platforms, attitude towards technology, social media platforms, educational Technology, lecture method*

INTRODUCTION

Learning through social media demands social presence which can only be done through social participation using appropriate educational technology tools to integrate technology in the classroom and to promote learning in a diverse society. It is an established fact that educational technology is the vehicle through which instruction is being driven in the teaching and learning environment. This underpinning knowledge provides educators and learners with the framework of establishing themselves in the technology realm of life by sharing and participating in learning through social media. With the application of educational technology, students can independently progress in mastering materials, choose the pace of work, repeat the material that is not sufficiently clear, and get results of their performance and track down their progress.

Educational Technology is therefore a systematic and organized process of applying modern technology to improve the quality of education. It is a systematic way of conceptualizing the execution and evaluation of the educational process, the learning and teaching and the application of modern educational teaching techniques (Lazar, 2015). Educational Technology concepts provide a great advantage of modern learning over traditional learning because feedback between teachers and students is enhanced. It has the potential to transform education by extending the learning space beyond the four walls of the classroom. If properly used, it helps students acquire the skills they need to survive in a complex, highly technological knowledge-based economy. Dirk, (2018) asserts that the use of social media engages students, motivates their interest in the subject matter and aids student retention of knowledge. Thornton (2006) emphasizes that personal motivation and effort of the teacher in teaching are among the attitudinal factors that increase students' retention.

Attitude influences every aspect of a person's life either positively or negatively. A student's ability and willingness to learn depends on the attitude. Attitude is an affective variable that can affect learning negatively if the factors driving the attitude are not properly checked (Eze, 2015). Attitude has been seen as a hypothetical construct that represents an individual's degree of like or dislike for something. Supporting this, Oba and Aladejana (2014), using schema theory, observe that children and adolescents use gender to classify and understand their attitude about the world.

There are different studies carried out to find out the attitude of students towards the use of technological platforms such as Facebook and WhatsApp in teaching. Divya and Mitushi (2016) carried out a research on the impact of students attitudes towards social media use in education on their academic performance. The study was carried out in Delhi NCR Region using a self-

designed questionnaire for data collection. The results indicated that management students have positive views towards the use of social media and also maintain that social media are useful tools in education. Similarly, Aicha (2014) researched on the impact of Whatsapp mobile social learning on the achievement and attitude of female students compared with face to face learning in the classroom in Taibah University in Saudi Arabia. The results of the experiment showed that the students taught using WhatsApp mobile social learning performed significantly better than students taught using face to face learning in the classroom.

Tezer, Taspolat, Kaya and Sapanca (2017) researched on the impact of using social media on academic achievement and attitudes of prospective teachers. The study was carried out in Near East University, Cyprus. Findings revealed that prospective teachers' attitudes towards social media were at a moderate level. Nikola, Ana and Katharina (2017) conducted a research on student attitudes toward use of social media in the learning process: a comparative study of Croatian and German students. The study focused on attitude differences between Croatian and German students. The study found that students use social media frequently and have positive attitudes to integrating social media in education.

Undergraduates' attitude towards the use of social media for learning purposes was conducted by Williams and Adesope (2016). The study focused on ascertaining the attitude of students towards the use of social media. The study was conducted at the University of Port Harcourt, Rivers State, Nigeria. It was established that social media is used for educational and learning purposes by students. Despite technological advancements in the teaching sector and the educational benefits of social media, university lecturers especially in the developing countries like Nigeria are yet to adopt the use of social media in teaching. University educational institutions that ignore newer technologies for teaching and learning, such as the social media, may become less relevant in the development of human capital, thereby, undermining national economic growth and development. Therefore, there is a need to introduce the concept of social media as a new form of Educational Technology in teaching because of its educational benefits.

Social media teaching cannot replace the conventional methods of teaching in education but rather it will support, complement and enhance their effectiveness. This will provide students with greater experience in dealing with the world of work related issues they encounter. Social media teaching methodologies will lead to a learning society in which the creative and intellectual abilities of students will allow them to meet the goals of transformation and development. It is for this reason that this study investigated the effect of technology supported instructional platforms on undergraduate students' attitude in Educational Technology in public universities in Nigeria.

METHODOLOGY

The design adopted for this study was a quasi-experimental design. The design was chosen since it would allow in-depth analysis of the effect of technology supported instructional platforms on undergraduate students' attitude in Educational Technology. Furthermore, the research design was advantageous because it provided a detailed and conclusive description of the state of affairs

as regards the attitude of undergraduate students towards use of technology supported instructional platforms Educational Technology.

The study targeted educational technology students in all public universities. The target population was selected from second year educational technology students.

Simple random sampling technique was used to select three out of the five public universities offering Educational Technology in Nigeria. From the selected universities, experimental and control groups of respondents were purposively selected. In the experimental group, there were 180 respondents while in the control group, there were 120 respondents who were purposively selected to participate in the study owing to characteristics of interest.

The instrument used to gather data for the study was a questionnaire. Specifically, the questionnaire adopted for this study was a university students' attitude to educational technology through Facebook and WhatsApp instruction questionnaire (USAETFWIQ). The questionnaire was administered to students of experimental groups to test their attitude after exposure to instructions.

The data collected was analyzed using descriptive statistics and inferential statistics. The descriptive statistics were used to provide answers to the research questions using mean and standard deviation while the inferential statistics were used to provide answers to the research hypotheses using t-test analysis. Findings from the study were presented using tables and figures.

RESULTS

Effect of Technology Supported Instructional Platforms on Undergraduate Students' Attitude towards Educational Technology

The study sought to evaluate the effect of technology supported instructional platforms on undergraduate students' attitude towards educational technology. In response to this objective, the following was considered: mean attitude response scores of students taught educational technology concept using Facebook supported instructional platform and Lecture Method and mean attitude response scores of students taught educational technology concept using WhatsApp supported instructional platform and lecture method.

The Mean Attitude Response Scores of Students Taught Educational Technology Concept Using Facebook Supported Instructional Platform and Lecture Method

In this study, the mean attitude response scores of students taught educational technology concept using Facebook supported instructional platform and Lecture Method was determined. The distribution of responses is presented in Table 1:

Table 1

Mean and Standard Deviation of Attitude Responses of Students after Teaching Them with Facebook Supported Instructional Platform and Lecture Method

Variables	N	\bar{X}	SD
Experimental Group I (Facebook)	60	3.15	.406
Control Group (Lecture method)	60	3.04	.583

Table 1 shows the mean and standard deviation of mean attitude responses of students in educational technology after teaching them with Facebook supported instructional platform and lecture method. The results revealed that the mean and standard deviation of mean attitude responses of students after teaching them with Facebook supported instructional platform was = 3.15 and SD = .406 respectively. Similarly, the mean and standard deviation of mean attitude responses of students after teaching them with lecture method was = 3.04 and SD = .583 respectively. The result also revealed that experimental group one had the highest mean of 3.15

The Mean Attitude Response Scores of Students Taught Educational Technology Concept Using WhatsApp Supported Instructional Platform and Lecture Method

In this study, the mean attitude response scores of students taught educational technology concept using WhatsApp supported instructional platform and lecture method was determined. Table 2 shows the distribution of responses.

Table 2

Mean and Standard Deviation of Attitude Responses of Students after Teaching Them With WhatsApp Supported Instructional Platform and Lecture Method

Variables	N	\bar{X}	SD
Experimental Group II (WhatsApp)	60	4.23	.418
Control Group (Lecture method)	60	3.35	.652

Table 2 shows the mean and standard deviation of mean attitude responses of students in educational technology after teaching them with WhatsApp supported instructional platform and lecture method. The results revealed that the mean and standard deviation of mean attitude responses of students after teaching them with WhatsApp supported instructional platform are =

4.23 and SD = .418 respectively. Similarly, the mean and standard deviation of mean attitude responses of students after teaching them with lecture method are = 3.35 and SD = .652 respectively. The result also revealed that experimental group two had the highest mean of 4.23.

Association between Mean Attitude Response Scores of students taught Technology Supported Instructional Platforms and Lecture Method

The study examined the association between mean attitude response scores of students taught using technology supported instructional platforms and lecture method. A t-test was used to establish association.

Association between Mean Attitude Response Scores of Students taught Educational Technology Concept using Facebook Supported Instructional Platforms and Lecture Method

H₀₁: There is no significant difference in the mean attitude response scores of students taught Educational Technology concept using Facebook supported instructional platforms and lecture method.

The study examined the association between the mean attitude response scores of students taught educational technology concept using Facebook supported instructional platforms and lecture method. Table 3 shows paired sample t-test results.

Table 3

Summary of Independent T-Test Comparisons of the Mean Attitude Response Scores of Students Taught Educational Technology Using Facebook Supported Instructional Platform and Lecture Method

Variables	N	Df	Mean	S.D	t- cal	Sig.
Experimental Group 1 (Facebook)	60	118	79.00	7.679	2.190*	.033
Control Group	60		74.87	8.790		

*Significant at 0.05 level of significance

From the table, the mean score for the experimental group I (Facebook) is 79.00 with standard deviation 7.679, while that of control group is 74.87 with standard deviation of 8.790. The table indicates that there was significant difference at $P < 0.05$ level of significance ($P = .033$). On the basis of this, hypothesis one was rejected. Therefore the study concluded that there was a statistical significant difference in the mean attitude response scores of students taught

educational technology using Facebook supported instructional Platform and lecture method. Students' attitude remained favorable and encouraging to Educational Technology.

Association between Mean Attitude Response Scores of Students taught Educational Technology Concept using WhatsApp Supported Instructional Platform and Undergraduate Students' Attitude towards Educational Technology

H₀₂: There is no significant difference in the mean attitude response scores of students taught educational technology concept using WhatsApp supported instructional platform and undergraduate students' attitude towards educational technology.

The study examined the association between the mean attitude response scores of students taught educational technology concept using WhatsApp supported instructional platform and undergraduate students' attitude towards educational technology. Table 4 shows paired sample t-test results.

Table 4

Summary of Independent T-Test Comparisons of the Mean Attitude Response Scores of Students Taught Using WhatsApp Supported Instructional Platform and undergraduate students' attitude towards Educational Technology

Variables	N	Df	Mean	S.D	t-cal		Sig.
Experimental Group II (WhatsApp)	60	118	70.87	9.081	2.170*		.024
Control Group	60		63.37	5.744			

*Significant at 0.05 level of significance.

Table 4 shows independent t-test comparison of the mean attitude response scores of students taught Educational Technology using WhatsApp supported instructional platform and undergraduate students' attitude towards educational technology. The table indicates that there was a statistical significant difference at $P < 0.05$ level of significance ($P = .024$). On the basis of this, hypothesis two was rejected. This shows that students' attitude were favourable towards the use of WhatsApp for teaching which implies that WhatsApp is a good teaching platform.

DISCUSSION

The mean attitude response scores of students taught Educational Technology using Facebook supported instructional platforms and lecture method show that the arithmetic means of the experimental group one are higher than arithmetic mean of the control group. Based on

descriptive statistics values, the difference between the two arithmetic means is in favor of the experimental group. The result of testing its corresponding research hypothesis indicated that there was a statistical significant difference in the mean attitude response scores of students taught educational technology using Facebook supported instructional Platform and lecture method. This shows that students attitude towards the use of Facebook in teaching were favorable and encouraging. In other words, Facebook is a good teaching platform. This agrees with a study by Divya and Mitushi (2016) on the impact of students attitudes towards social media use in education on their academic performance. The findings indicated that management students have positive views towards the use of social media and also maintain that social media are useful tools in education.

The mean attitude response scores of students taught educational technology concept using WhatsApp supported instructional platform and lecture method revealed that students had a positive attitude towards the use of WhatsApp instructional platform. This shows that WhatsApp platform enhances learning. This is in line with research by Aicha (2014) on the impact of WhatsApp mobile social learning on the achievement and attitude of female students compared with face to face learning in the classroom.

Further, the study revealed that there was a significant difference between the mean attitude response scores of students taught educational technology concept using WhatsApp supported instructional platform and undergraduate students' attitude towards educational technology. The results of the experiment showed that the students taught using WhatsApp mobile social learning performed significantly better than students taught using face to face learning in the classroom. This is in line with a study by Tezer, et al (2017) who researched on the impact of using social media on academic achievement and attitudes of prospective teachers found out that prospective teachers' attitudes towards social media were at a moderate level. The findings also corroborate research by Nikola, et. al (2017) on student attitudes toward use of social media in the learning process: a comparative study of Croatian and German students. The study found that students use social media frequently and have positive attitudes to integrating social media in education (Nikola et. al, 2017).

CONCLUSION

Findings from this study revealed that there was a statistical significant difference in the mean attitude response scores of students taught educational technology using Facebook supported instructional platform and lecture method. Students' attitude remained favorable and encouraging to educational technology. In other words, Facebook is a good teaching platform.

Further, the study revealed that there was a significant difference between the mean attitude response scores of students taught educational technology concept using WhatsApp supported instructional platform and undergraduate students' attitude towards Educational Technology. Specifically, it was established that students had a positive attitude towards the use of WhatsApp, which implies that WhatsApp platform enhances learning. Although, the arithmetic means of the

experimental group one are higher than arithmetic mean of the control group, the difference between the two arithmetic means is in favor of the experimental group.

For effective teaching and teacher-learner interaction, the study recommends that Facebook and WhatsApp should be used by lecturers and students to provide and supplement their teaching and learning materials respectively. Further, lecturers can encourage students to use Facebook and WhatsApp so that they can get extra information aside from the normal class materials given to them by their lecturers. The use of Facebook and WhatsApp for education purposes would in no doubt improve the teaching and learning process.

The study also recommends that government should ensure that Facebook and WhatsApp supported instructional platforms are made as one of the major teaching strategies for Educational Technology courses in universities. Additionally, government and other stakeholders in the education sector should ensure that the concept of social media as a new form of Educational Technology in teaching is incorporated in the school curriculum not to replace the conventional teaching method but to complement it for more effectiveness. This can be achieved by making it a compulsory course offered at university level.

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