Impacts of Facebook and WhatsApp supported instructional platforms on undergraduate students’ attitude towards educational technology

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ABSTRACT

This study investigated the impacts of Facebook and WhatsApp supported instructional platforms on undergraduate students’ attitude in educational technology. A survey research design was adopted using three independent and one dependent variable. Two research questions were raised to guide the study and two hypotheses were tested. A total of 180 educational technology students selected from three universities out of five universities offering educational technology in Nigeria were randomly assigned to Experimental Group I (exposed to Facebook supported instructional platform), Experimental Group II (exposed to WhatsApp supported instructional platform) and Control Group (taught through lecture method). University Students’ Attitude to Educational Technology through Facebook and WhatsApp Instruction Questionnaire (USAETFWIQ) was used for data collection. This instrument was validated by experts and the reliability coefficient of 0.881 was obtained using Cronbach Alpha method. Data gathered were analyzed using t-test analysis and significance was ascertained at 0.05 alpha levels. Findings showed that 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 significant different existing between experimental group two and control group in their attitude response towards educational technology after teaching them with WhatsApp supported instructional platforms and lecture method (P<0.05 level of significance (P=.024). It was therefore recommended among others that Facebook and WhatsApp supported instructional platform should be made as one of the major teaching strategies for Educational Technology courses in universities.

Key words: Facebook supported instructions, WhatsApp supported instructions, attitude, 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. Educational technology is 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). 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, get results of their performance and track down their progress.

Similarly, Educational Technology is 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). With the application of Educational Technology, students can independently progress in mastering teaching materials, choose the pace of work, repeat the material that is not sufficiently clear, get results of their performance and track down their progress. Educational Technology concepts provide a great advantage of modern learning over traditional learning because feedback between teachers and students is enhanced.

Educational Technology 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 is generally a positive or a negative view of a person, thing, or event. It influences every aspect of a person's life either positively or negatively. 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, observed that children and adolescents use gender to classify and understand their attitude about the world.

There are different researches carried out to find out the attitude of students towards the use of 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. A sample of 237 management students from three private colleges and two private universities of Delhi NCR Region were selected using purposive sampling method. Correlations, regressions and descriptive analysis were the statistical tools employed. 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 as compared with face to face learning in the classroom. 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 et al. (2017) researched on the impact of using social media on academic achievement and attitudes of prospective teachers. The purpose of study was to determine the attitudes of prospective teacher towards the use of social media in education. The study was carried out in Near East University, North Cyprus. A sample of 204 participants was selected using simple random sampling. The research design adopted was a relational survey model using attitudes towards Social Media Scale for data collection. The finding showed that prospective teachers' attitudes towards social media were at a moderate level. Nikola et al. (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 was conducted in Croatian and German and focused on attitude differences between Croatian and German students. Survey design was used for the research. One hundred and fifty eight students were sampled for the study. The research instrument used was a questionnaire. Simple percentages were used as the statistical tool. 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. Survey design was used for the research. Three hundred students were sampled for the study. The research instrument used was a structured questionnaire. Mean score, ANOVA, Z-test and Scheffe’s model were the statistical tools used for data analysis. It was found that social media are used for educational and learning purposes by students.

**Statement of the problem**

Despite technological advancements in the teaching sector and the educational benefits of social media, university lecturers especially in the developing countries such as 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 teaching methodology in education but rather it will support, complement and enhance its 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. Consequent upon the foregoing, the current research therefore investigates the impacts of Facebook and WhatsApp supported instructional platforms on undergraduate students’ attitude in Educational Technology.

**Aim and objectives of the study**

The aim of this study is to investigate impacts of Facebook and WhatsApp supported instructional platforms on undergraduate students’ attitude in Educational technology. Specifically, the objectives of the study were to:

1. Determine the mean attitude response scores of students taught Educational Technology concept using Facebook supported instructional platform and lecture method
2. Determine the mean attitude response scores of students taught Educational Technology concept using WhatsApp supported instructional platform and lecture method.

**Research questions**

1. What are the mean attitude response scores of students taught Educational Technology concept using Facebook supported instructional platform and lecture method?
2. What are the mean attitude response scores of students taught Educational Technology concept using WhatsApp supported instructional platform and lecture method?

**Research hypotheses**

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.

H02: There is no significant difference in the mean attitude response scores of students taught Educational Technology concept using WhatsApp supported instructional platform and lecture method.

**METHODOLOGY**

A survey research design was adopted for this study. Three levels of independent variables (two experimental and one control) were investigated on student attitude towards Educational Technology. The independent variables were the Facebook supported instructional method, WhatsApp supported instructional platforms and lecture method. Students’ attitude to Educational technology as a result of the manipulation of the independent variables was the dependent variable of this study. The three groups were taught five units of instruction on distance education courses. The experimental group 1 was taught using Facebook supported instructional platform, experimental group 11 taught using WhatsApp supported instructional platform, while the control group was taught using lecture method. Their attitude towards the use of Facebook and WhatsApp supported instructional platforms in teaching Educational Technology was also sought by administering a questionnaire to them known as University Students’ Attitude to Educational Technology through Facebook and WhatsApp Instruction Questionnaire (USAETFWIQ).

The population of this study comprised all Educational Technology students (3,056) in all public universities. The target population comprised 180 second year Educational Technology students. Simple random sampling was used to select three out of the five public universities offering Educational Technology in Nigeria.

The instrument used to gather data for the study was University Students’ Attitude to Educational Technology through Facebook and WhatsApp Instruction Questionnaire (USAETFWIQ) developed by the researcher. The USAETFWIQ consists of three sections. Section A contains information on the demographic data of the respondents, section B contains information on attitude of students to Educational Technology through the use of Facebook supported instructional platform, while section C contains information on attitude of students to Educational Technology through the use of WhatsApp supported instructional platform. The scale was developed to elicit information from the students regarding their attitude towards the use of Facebook and WhatsApp in teaching Educational Technology concepts. This was administered to students of experimental groups to test their attitude after exposure to instruction. The attitude scale comprises twenty (20) items based on a 4-point scale in which strongly agree (SA) is awarded 4 points, Agree (A) awarded 3 points, Disagree (D) awarded 2 points and Strongly Disagree (SD) awarded 1 point. A mean of 2.50 was taken as acceptable mean for agreement because the researcher used an adapted 4-point likert scale. The items were verified by experts on technical accuracy and composition. The final draft was done after getting opinions, suggestions and feedback from experts and was validated and its reliability determined using Cronbach Alpha method which yielded the reliability co-efficient of 0.88.

**RESULTS**

**Research question 1**

What are the mean attitude response scores of students taught Educational Technology concept using Facebook
Table 1: Mean and standard deviation of attitude responses of students after teaching them with Facebook supported instructional platform and lecture method.

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>X</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental group I (Facebook)</td>
<td>60</td>
<td>3.15</td>
<td>0.406</td>
</tr>
<tr>
<td>Control group (Lecture method)</td>
<td>60</td>
<td>3.04</td>
<td>0.583</td>
</tr>
</tbody>
</table>

Table 2: Mean and standard deviation of attitude responses of students after teaching them with WhatsApp supported instructional platform and lecture method.

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>X</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental group II (WhatsApp)</td>
<td>60</td>
<td>4.23</td>
<td>0.418</td>
</tr>
<tr>
<td>Control group (Lecture method)</td>
<td>60</td>
<td>3.35</td>
<td>0.652</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Df</th>
<th>Mean</th>
<th>S.D</th>
<th>t-cal</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental group 1 (Facebook)</td>
<td>60</td>
<td>118</td>
<td>79.00</td>
<td>7.679</td>
<td>2.190*</td>
<td>0.033</td>
</tr>
<tr>
<td>Control group</td>
<td>60</td>
<td></td>
<td>74.87</td>
<td>8.790</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at 0.05 level of significance.

Hypothesis 1 (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.

From the Table 3, 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=0.033). On the basis of this, hypothesis one was rejected. Therefore, there was significant difference in the mean attitude response scores of students taught Educational Technology using Facebook Supported Instructional Platform and lecture method. Students’ attitude remained favourable and encouraging to Educational Technology.

Hypothesis 2 (H₀₂)

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

Table 4 shows independent t-test comparison of the mean attitude response scores of students taught Educational Technology using WhatsApp Supported Instructional

supported instructional platform and lecture method.

Table 1 shows the mean and standard deviation of mean attitude responses of students in Educational Technology after teaching them using Facebook supported instructional platform and lecture method. The result showed that the mean and standard deviation of mean attitude responses of students after teaching them using Facebook supported instructional platform were X = 3.15 and SD = 0.406, respectively. Similarly, the mean and standard deviation of mean attitude responses of students after teaching them using lecture method were X = 3.04 and SD = 0.583, respectively. The result also showed that experimental group I had the highest mean of 3.15.

Research question 2

What are the mean attitude response scores of students taught Educational Technology concept using WhatsApp supported instructional platform and lecture method.

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 result showed that the mean and standard deviation of mean attitude responses of students after teaching them using WhatsApp supported instructional platform were X = 4.23 and SD = 0.418, respectively. Similarly, the mean and standard deviation of mean attitude responses of students after teaching them using lecture method were X = 3.35 and SD = 0.652, respectively. The result also showed that experimental group II had the highest mean of 4.23.
Platform and lecture method. The table indicates that there was significant difference at P<0.05 level of significance (P=0.024). 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 a significant difference in favour of the students in the experimental group I as against the control group. This shows that students attitude to the use of Facebook in teaching were favourable and encouraging. In other words, Facebook is a good teaching platform. This is in agreement with the finding of Divya and Mitushi (2016) who carried out a research 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.

Research question two and its corresponding hypothesis showed that students had a positive attitude towards the use of WhatsApp. This shows that WhatsApp platform enhances learning. This is in line with the work of Aicha (2014) who researched on the impact of WhatsApp mobile social learning on the achievement and attitude of female students as compared with face to face learning in the classroom. 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. Also in line with 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. This also corroborates the work of Nikola et al. (2017) who researched 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. This finding does not contradict the work of Williams and Adesope (2016) on undergraduates’ attitude towards the use of social media for learning purposes. It was found that social media are used for educational and learning purposes by students.

**Conclusion**

The purpose of this study was to determine the impact of Facebook and WhatsApp supported instructional platforms on undergraduate students’ attitude to educational technology. Absolutely, students’ attitudes towards Educational technology after teaching them using Facebook and WhatsApp supported instructional platforms were favourable and encouraging. This supports the idea that social media platforms are instructional friendly and learning supportive. This, by implication, achieves the aim of this study, validates the statement of the problem which creates the need for the introduction of social media learning in the university curriculum.

**RECOMMENDATIONS**

1. 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.
2. Government and other stakeholders in education 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.

**REFERENCES**


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**Table 4:** Summary of independent t-test comparisons of the mean attitude response scores of students taught using WhatsApp supported instructional platform and lecture method.

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Df</th>
<th>Mean</th>
<th>S.D</th>
<th>t-cal</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental group II (WhatsApp)</td>
<td>60</td>
<td>118</td>
<td>70.87</td>
<td>9.081</td>
<td>2.170*</td>
<td>0.024</td>
</tr>
<tr>
<td>Control group</td>
<td>60</td>
<td></td>
<td>63.37</td>
<td>5.744</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at 0.05 level of significance.


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