THE EFFECT OF SOCIAL MEDIA ON STUDENTS PERFORMANCE IN LEARNING MATHEMATICS

JEJE, O. S., OLAGOKE, M. AND EGBON, F.O
Department of Mathematics, College of Education, Ikere – Ekiti

ABSTRACT
The study compared the effect of social media on students performance in learning mathematics. The sample for the study consisted of 200 senior secondary school one (1) students. Multi-stage random sampling technique was used to select the needed sample for the study. The instruments used was the Mathematics Achievement Test (MAT) and a t-test Analysis was used to analyze the data collected at 0.05 level of significance. There were 20 items, four options multiple choice objectives test measuring students achievement in the topic used for the student for senior level, hence, this test serves as pre-test and posttest after been rearranged. The findings of this study revealed that there is difference in the performance of senior secondary students taught mathematics using social media and conventional method. The student taught mathematics using social media out-performed than students taught mathematics using conventional method. This is was in line with the finding of Haddad (2002). Also, it was revealed that there is differences in the performance of male and female student in line with Mark 2002 said those boys are more likely do better than girls. Based on the outcome of this study, it was shown that social media have positive effects on teenagers in improving their academic work.

Keyword: effect, social media, performance, learning

INTRODUCTION
The world is total celebrating the improvements in communication technology which has broadened the scope of communication through Information and Communication Technology (ICTs). Computer-based
technologies are now common place in classrooms and the integration of these media into the teaching and learning of mathematics is supported by government policy in most developed countries. Ayodele (2018) says social media is an interactive communication—where one can interact with media. Also, social media is a two way communication channel; it is a collection of individual with similar interests. It also allows creation of user generated content in a virtual community. The benefits of social media is a global connection, teacher, students and parents connection through upload and shares files, writing comments, lessons, upcoming events. According to Ayodele (2018) Social Media Best Practices when you are honest, transparent, write all what you know, be responsible and trustworthy, disagree professionally on topics, research and teaching, write a personal Email and its okay to decline or ignore. Graig Deed; Anthony Edwards (2010): The using of social networks (facebook for example) has effectiveness in teaching and training of mathematics. There is a general consensus among mathematics education researchers that effects on learning depend on a whole range of variables that define how the technology is being used (e.g. Doerra & Zangor, 2000). There are clear risks involved when students become too consumed with the internal and social networking websites. Students engage themselves with one activity or the other on the various social media on day to day activities. It was discovered that social networking sites are the most common used social medial networks among students and also Wikipedia has the main resort point for students for research purposes. In The addition, undergraduates spend more time on facebook, twitter and other social media through smart phones that are now in abundance among these youths. According to fisher (2011), the use of social network has big influence on teachers and learners compared to traditional educational system due to the opportunities provided to connect and collaborate in a much ensuring manner. Stephens (2011) noted that more and more students are glued to social network especially facebook to socialize, to catch up one another,
share events and popular causes, news, pictures and hold discussion. Social networking tools are products of improved World Wide Web or commonly known as web 2.0 (Alexander, 2006). It allows collaboration sharing of knowledge and content among users. O’Reilly (2005). According to Martin (2009), in a research conducted by university of new Hampshire, students who are heavily engage in social networking do just as well academically as students who are less interested in keeping in touch with the medium. Stollak et al (2011) noted that with the emergence of smart phones, net books and tablets today the involvement of students in the social network will increase greatly not only for communication and entertainment but also for education.

Weems (2002) conducted a comparative study on the introductory Algebra subjects offered to two groups of students: one taught via online and the other via traditional approach. He found that there is no significant difference between the achievements of both groups of students. A similar research conducted by Ruyan (2001) on the introductory mathematics subject also yielded the same result.

**Statement of the Problem**
The performance level of students in mathematics has remained low in both internal and external examinations. The teaching and learning process does not only concern teachers and students but also the nature of interaction between them in the classroom. Some authors have claimed that in the teaching process, it is not the teacher that is most important but the teaching method. To this effect; there is a need to examine the effect of social media on students performance in learning mathematics.

**Significance of the Study**
The finding of the study was intended to find how to improve the academic performance of mathematics students. Also, the findings of the study would be of great assistance to mathematics teachers, students, parents, government and stakeholders in education. The findings will also eradicate the learning difficulties experienced by mathematics students and the thus improve their academic performance in mathematics.
Purpose of the Study
The purpose of this study was to determine the impact of social media on the teaching and learning of mathematics. The study specifically intends to:

1. Determine the difference in the performance of S.S students taught mathematics using social media and those taught using conventional method.
2. Ascertain the difference in the performances of male and female students taught mathematics using social media and those taught using conventional method.
3. Investigate the difference in the performance of male and female senior S.S students taught mathematics using social media.

Research Hypotheses
1. There is no significant difference between the performance of S.S.S students taught mathematics using social media and those taught using conventional method before treatment.
2. There is no significant difference in the performance score of students expose to use of social media and those who do not after treatment.
3. There is no significant difference between the performances of male and female students taught mathematics using social media.
4. There is no significant difference between the performance retention ability mean score of students expose to use of social media and those not expose.

Population, Sample and sampling Techniques
The main population for this study included senior secondary school 1(one) students in Ekiti State.

The sample for the study consisted of 200 senior secondary school 1(one) students. The multi-stage random sampling technique was used to select the needed sample for the study.

Two instruments were used to generate data for the study. These are; Mathematics Achievement Test (MAT) and a t-test Analysis was used to analyze the data collected at 0.05 level of significance. there were 20 items, four options multiple choice objectives test measuring students
achievement in the topic used for the study for senior level. The test serves as pre-test and posttest where rearranged.

**Results**
The result of analysis from data generated through pretest and post-test conducted for students taught mathematics using social media and without social media.

**Hypothesis I:**
There is no significant difference between the performance of senior secondary students taught mathematics using social media and those taught using conventional method before treatment.

Table I:
T-test statistic for the performance of senior secondary students taught mathematics using social media and those taught using conventional method before treatment.

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>X(\bar{X})</th>
<th>Sd</th>
<th>Df</th>
<th>Tcal</th>
<th>t-table</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Media</td>
<td>100</td>
<td>8.32</td>
<td>2.62</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conventional Method</td>
<td>100</td>
<td>7.89</td>
<td>2.53</td>
<td>198</td>
<td>0.63</td>
<td>1.96</td>
</tr>
</tbody>
</table>

p<0.05 (Result is not significant)

From table 1 above, the t-calculated (0.63) was less than t-table (1.96). Which led to rejection of hypothesis I. There is difference in the performance of senior secondary school students taught mathematics using social median and those taught mathematics using conventional method.

**Hypothesis 2:**
There is no significant difference in the performance score of students expose to use of social media and those who do not after treatment.

**Table 2:** T-test statistics for the performance score of students expose to use of social media and those who do not after treatment.
Hypothesis 3: There is no significant difference between the performances of male and female students taught mathematics using social media.

Table 3: T-test for the performances of male and female students taught mathematics using social media.

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>$X_\pi$</th>
<th>Sd</th>
<th>Df</th>
<th>Tcal</th>
<th>t-table</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Media Method</td>
<td>100</td>
<td>6.38</td>
<td>1.56</td>
<td>198</td>
<td>3.02</td>
<td>1.96</td>
</tr>
<tr>
<td>Conventional Method</td>
<td>100</td>
<td>3.20</td>
<td>0.70</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The result of table 3: The t-calculated (4.30) was found greater than t-table (1.96) which led to rejection of hypothesis 3. There is a different in the performances of male and female students taught mathematics using social media in favour of male student.

Hypothesis 4: There is no significant difference between the performance retention ability mean score of students expose to use of social media and those not expose.

Table 4:

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>$X_\pi$</th>
<th>Sd</th>
<th>Df</th>
<th>Tcal</th>
<th>t-table</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Media Method</td>
<td>100</td>
<td>3.78</td>
<td>1.56</td>
<td>198</td>
<td>3.41</td>
<td>1.96</td>
</tr>
<tr>
<td>Conventional Method</td>
<td>100</td>
<td>3.20</td>
<td>0.70</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

p<0.05 (Result is significant)
Discussion
The findings of this study revealed that there difference in the performance of senior secondary students taught mathematics using social media and conventional method. The students taught mathematics using social media out-performed than students taught mathematics using conventional method. This was in line with the finding of Haddad (2002). Also, it was revealed that there is difference in the performance of male and female students taught mathematics using social method and those taught mathematics using conventional method. It was in line with mark (2002) said those boys are more likely than girls to have access to computers and smart phone in schools and thereby contributing to their leaning and performance of student in mathematics.

Conclusion and Recommendations
Based on the outcome of this study, it was shown that social media have positive effects on teenagers in improving their academic work. the benefits of social media that school management should incorporate rules and regulations on the use of the social media in the school and that the government should put in place adequate control measures to regulate their use among students and lecturers.
The use of social media network by students should focus on the academic relevance of those sites instead of using them for negative purposes.
Students should be educated on the influences of social media on their academic performance. Also, students should better manage their study time in the prevent distractions that can be provided by the social media. In addition, the internet should be accessible with the school environment to have access to global trends and innovations in mathematics concepts.

REFERENCES


