

## **INFLUENCE OF VIDEO GAMES AND SOCIAL MEDIA ON SECONDARY SCHOOL STUDENTS' LEARNING AS EXPRESSED BY TEACHERS IN KWARA STATE, NIGERIA**

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### **Abstract**

*Advancement in the scientific means of information transmission has extended the scope of human interactions. Studies have revealed mixed results regarding ICT impact on educational attainment; thus, this study investigated teachers' views on video games and social media impacts on Nigerian's secondary school students' learning. Descriptive survey design was adopted. Multistage sampling procedure (comprising proportional, purposive, and simple random techniques) was employed to select 420 teachers across Kwara state. The instrument was content validated and a reliability coefficient of 0.83 was obtained using the Pearson Product Moment Coefficient Formula. Mean, rank order and t-test were employed for data analysis at 0.05 alpha levels. The finding showed that video games help to develop student's mental ability, improve student's memory and promotes students' interest in academic activities. Also, social media enhances student personal reading and studying, assist students to get latest information and opportunity to communicate with colleagues on how to improve their studies. More so, there were no significant differences in the perception of respondents of different age and gender on the influence of video games on students' learning. It can thus be concluded that that video games and social media constructively aid students' knowledge acquisition. It was therefore recommended that learners should be encouraged by school counsellors to engage in utilisation of video games and social media to the benefit their knowledge advancement.*

**Keywords:** Influence, Video Games, Social Media, Students' Learning

### **Introduction**

The progress recorded in science and technology has changed the patterns of human interactions through the invention of modern technologies in communication. Human being is now capable of exchanging information through different media generally described as Information and Communication Technologies (ICTs). Cotten (2008) described ICTs as a comprehensive term that include various information exchange mechanisms and gadgets like radio set, television, mobile phone, computer, processor and web hardware and interactive programme as well as collection of applications for these technologies such as gaming, social networking, instant messaging and texting. Information and communication technologies have become part and parcel of the global community including the developing nations like Nigeria. The age bracket that engaged more in the use of ICTs such as video games and social networking in Nigeria is majorly the youth.

Video games have the same interactive programme experience as computer aided teaching packages; their probable learning effect is habitually discouraged by educational stakeholders due the rate of its mishandling among students. The emergence of computer-aided video games has attracted a significant increase and patronage in the last two decades and this has prompted studies into the effects that video games could have on

students' academic achievement (Begg, Dewhurst & Macleod, 2005; Squires, 2003; Chuang & Chen, 2009).

Researchers and educational stakeholders were of divergent views on the impact of computer games on academic attainment of students. Some viewed computer game as beneficial to academic attainment, others emphasised its negative impacts. In the distant past, Pillay (2002) stressed that the outcome of spare time computer games on children's accomplishment on instructional tasks is looked upon as unhelpful in scholastic scene, particularly for children and adolescents.

The acceptance of the use of social media among students in institutions of learning for purposes of information dissemination has led to its gross misuse in important places. This has generated a lot of concern among educational stakeholders. Oyetunde (2017) emphasised that Facebook, Whatsapp and other social media platforms are progressively been used by secondary school students for socialising and participating in extra-curricular activities. Many students are engrossed in the use of social media without been conscious of where they are and with little regard for the norms of the environment. It is not uncommon to see students in academic engagement such as classroom instructions, laboratory activities and presentation chatting, watching videos, pictures and playing games on social media.

This situation has led to the embargo placed on the use of mobile phone in the school environment for Nigerian secondary school students based on the assumption that they are not capable of managing personal freedom without been supervised. Studies (Kirschner & Karpinski, 2010; Junco, 2011; Boogert, 2006) found out unconstructive association between social media use and academic performance.

Despite the negative influence of social media on students' learning highlighted above, some other researchers have shown that social media and video game have positive influence on student learning. For instance, Clemente, Espinosa, and Vidal (2008) considered social media as a tool that supports academic activities through sharing of educational materials as well as seeking clarification of learnt concepts. Most parents also believed that computers are important educational resources that allow their children to discover fascinating, useful things and children with low exposure to computer are disadvantaged compared to those with high exposure to social media and the use of computer.

A previous study by Gee (2005) also indicated that good game-support instruction such as video games feature excellent learning worth such as chances for trial, taking risks, acquiring knowledge from failure with limited panic of actual outcomes. Huang and Soman (2013) emphasised that game-support instruction has features that can inspire students to contend with themselves and appreciate their own successes as well as features that promotes struggle and or teamwork.

Studies regarding age and gender influences on teachers' perception on the success of games in teaching certain concepts were inconsistent. As-Saffar (2016) noted that the age and gender of teachers did not affect their perception of the success of Educational electronic games in students learning of mathematics. However, Hamari and Nousiaien (2015) had earlier revealed age discrepancy in teachers identified worth in the use of educational video games in the delivery of their teaching tasks. Hence, this study appraised how age and gender of teachers mitigate their understanding on the advantage of video games and social media on students' knowledge acquisition from teachers' point of view in Kwara State, Nigeria.

Based on the above submissions, the researcher inquired how video games and social media affect student's knowledge acquisition from the teachers' point of view in Kwara State, Nigeria.

### **Statement of the Problem**

Preliminary observations by the researchers, investigation and interviews with some teachers and students revealed a number of challenges in relation to students' involvement on social media which were also in line with previous research outcome. These include a strong craving rate among students which affects their time of learning, the wrong manipulation of sentence structure and spelling in social media discourse as well as distracting students from their studies (Mingle & Adams, 2015). Kirschner and Karpinski (2010) revealed that students who devoted colossal part of their time on social network sites pay a lesser amount of time on their academic activities which really affects their academic performance. The trend toward increased use of video games and other interactive digital media continues. The upcoming primary school students are even more likely to be tightly tied to technology than the current secondary school students. The current generation is exceedingly comfortable with technology and electronic entertainment. It was noted that the average Nigerian youngster now spends one-third of each day with some form of electronic media (Asekun-Olarinmoye, et al. 2014) which larger percentage of it may not be related to educational use.

A number of researchers (Anand, 2007; Cummings & Vandewater, 2007) have worked on the association between video games and school activities. The findings of the studies recounted that video game devotees trail in school tasks, doze off in class regularly, and devote minimal hours to homework and other academic activities in school and at home.

Al-Rahmi and Mohd (2013) explored the effect of social media utilization on scholastic attainment among students; the findings revealed that social media supportively inspire students' knowledge amidst collective learning, relation with colleague and teachers. It is important for researchers to understand the positive and negative aspects of video games on the students learning at all levels most especially at the upper basic and senior secondary school levels. Playing games have supportive effects on students' wellbeing but playing violent games is linked to several negative problems. Thus, this study extends the scope of research on the advantage that video games and social media has on students' knowledge acquisition as viewed by Kwara State teachers.

### **Research Questions**

The following research questions were answered in the study;

- (i) How do video games influence students' learning as expressed by secondary school teachers in Kwara State?
- (ii) How do social media influence students' learning as expressed by secondary school teachers in Kwara State?

### **Research Hypotheses**

The following null hypotheses were verified in the study:

- (i) There is no significant difference in the influence of video games on students' learning as expressed by secondary school teachers in Kwara State based on age.
- (ii) There is no significant difference in the influence of social media on students' learning as expressed by secondary school teachers in Kwara State based on age.
- (iii) There is no significant difference in the influence of video games on students' learning as expressed by secondary school teachers in Kwara State based on gender.

- (iv) There is no significant difference in the influence of social media on students' learning as expressed by secondary school teachers in Kwara State based on gender.

### Methodology

The research design adopted for this study was descriptive survey type. The researchers considered descriptive survey method most appropriate for this study because it assists in finding out the influence of video games and social media on students learning as expressed by secondary school teachers in Kwara State.

The population for this study comprises 7,533 secondary school public teachers in Kwara State (Ministry of Education, Kwara State, 2016). The target population for this study consists of secondary school teachers in the areas that were selected from the three Senatorial Districts of Kwara State. According to the Research Advisor sample size determination table (2006), the sample size of 365 was recommended for a population of this magnitude, at 95% confidence level and 5% margin of error. However, the researchers increased the sample size by 10% to cater for attrition thereby, making a total of 420 respondents for the study. In selecting the sample, proportional, purposive and random sampling techniques were used.

Proportional sampling technique was used to select seven Local Government Areas (LGAs) based on the proportion of LGAs in each of the 3 senatorial districts in Kwara State. Viz: Kwara Central (4), Kwara North (5) and Kwara South (7). Therefore, proportional sampling techniques was considered appropriate as a result of inequality of the distribution of L.G.As in each senatorial district, hence a population ratio of 3:2:2 were used to select L.G which includes Kwara South, Kwara North and Kwara Central respectively.

These Local Governments are Ifelodun, Irepodun and Offa from Kwara South, 2 LGA from Kwara North which are Edu and Moro and 2 LGA from Kwara Central senatorial district, which are; Ilorin South and Ilorin West.

Proportional sampling technique was then used to select respondents based on the population of teachers in each local government. Proportional percentage of respondents in each Kwara State senatorial districts selected is shown in Table 1:

**Table 1: Population of Teachers in selected Local Government Areas in Kwara State**

| LGAs                        | Populations | Percentages | Samples    |
|-----------------------------|-------------|-------------|------------|
| <b><i>Kwara Central</i></b> |             |             |            |
| Ilorin South                | 1405        | 29.0        | 122        |
| Ilorin West                 | 1241        | 25.7        | 108        |
| <b><i>Kwara North</i></b>   |             |             |            |
| Edu                         | 245         | 5.2         | 22         |
| Moro                        | 313         | 6.5         | 26         |
| <b><i>Kwara South</i></b>   |             |             |            |
| Ifelodun                    | 605         | 12.5        | 53         |
| Irepodun                    | 644         | 13.3        | 56         |
| Offa                        | 379         | 7.8         | 33         |
| <b>TOTAL</b>                | <b>4832</b> | <b>100</b>  | <b>420</b> |

Finally, random sampling technique was used to sample the teachers based on the population selected from the schools using ballot system.

The instrument that was used in collecting data for this study is a questionnaire titled "Video Games, Social Media and Students' Learning Questionnaire (VGMSLQ)". The questionnaire was designed personally by the researchers. The instrument is in three sections: Section A: deals with demographic data of the respondents. It elicits data on respondents' age and gender. Sections B and C deal with items that elicit information on the influence of video games and social media on students' learning respectively. The respondents indicated their responses using four points Likert-Type rating scale of; Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD) with a rating of 4,3,2,1 points respectively.

*Validity:* In order to ensure content validity of the instrument, copies were given to 7 experts in the Department of Counsellor Education for validation of content and suggestions for item modification. Suggestions and modifications made were incorporated into what was now constructed and constituted the final form of the instrument. The experts adjudged the final draft of the instrument to possess content validity.

*Reliability:* to determine the reliability of the instrument, the test-retest method was used. Copies of the instrument were administered twice on the same set of 20 secondary school teachers from Busarialao College and focal point schools in Ilorin within an interval of four weeks. The two sets of scores obtained were then correlated using Pearson Product Moment Correlation. The correlation Coefficient obtained was 0.83. This coefficient indicates a high correlation between the two sets of scores and the instrument was adjudged reliable enough for the study.

The questionnaire items were scored based on the format of each of the sections. Section 'A' was scored and analysed statistically using percentage while sections B and C with 20 items each on the influence of video games and social media on students learning were scored using four points Likert-type rating scale as follows:

|                   |                |
|-------------------|----------------|
| Strongly Agree    | (SA) = 4points |
| Agree             | (A) = 3points  |
| Disagree          | (SD) = 2points |
| Strongly Disagree | (D) = 1point   |

The modality that was used in determining the influence of video games and social media on students' learning are that the average score any respondents can obtain is  $4+3+2+1=10/4 = 2.5$  and the mean scores from 2.5 and above indicated positive influence of video games and social media on students learning. Also, the mean scores below 2.5 were regarded as negative influence of video games and social media on students learning.

### **Method of Data Analysis**

The data obtained in this study was analysed using descriptive and inferential statistics. Percentage and frequency counts were used to analyse the data obtained from demographic section measured, mean ranking was used to answer research questions while t-test was used to test research hypotheses postulated. The hypotheses were tested at 0.05 alpha levels.

### **Results**

#### **Demographic Data Analyses**

This section presents the results of data obtained from the respondents in frequency counts and percentages.

#### **Table 2: Percentage Distribution of respondents based on Age**

| Age              | Frequency  | Percentage |
|------------------|------------|------------|
| 40 years & below | 160        | 38.1       |
| 41 years & above | 260        | 61.9       |
| <b>Total</b>     | <b>420</b> | <b>100</b> |

Table 3 indicates that respondents who are 41 years and above in age were 260(61.9%) and those who are 40 years and below are 160 which is 38.1% participated in this study.

**Table 3: Percentage Distribution of Respondents Based on Gender**

| Gender       | Frequency  | Percentage |
|--------------|------------|------------|
| Male         | 129        | 30.7       |
| Female       | 291        | 69.3       |
| <b>Total</b> | <b>420</b> | <b>100</b> |

Table 3 shows that the female respondents with a total number of 291(69.3%) participated more than the male.

**Research Question One:** How do video games influence students' learning as expressed by secondary school teachers in Kwara State?

**Table 4: Mean and Rank Order on the Respondents' Expression on Video Games and Learning**

| Item No. | In my view, video games                                                           | Mean | SD   | Rank             |
|----------|-----------------------------------------------------------------------------------|------|------|------------------|
| 16       | help to develop students' mental ability                                          | 3.70 | 0.66 | 1 <sup>st</sup>  |
| 7        | improve students' memory                                                          | 3.63 | 0.61 | 2 <sup>nd</sup>  |
| 18       | promote students' interest in academic activities                                 | 3.61 | 0.59 | 3 <sup>rd</sup>  |
| 4        | make students see assessments as an easy task                                     | 3.53 | 0.52 | 4 <sup>th</sup>  |
| 20       | aid teaching-learning process                                                     | 3.49 | 0.48 | 5 <sup>th</sup>  |
| 5        | improve students' level of comprehension                                          | 3.44 | 0.42 | 6 <sup>th</sup>  |
| 17       | make students to value learning                                                   | 3.43 | 0.41 | 7 <sup>th</sup>  |
| 2        | aid learning through visual images                                                | 3.39 | 0.36 | 8 <sup>th</sup>  |
| 1        | assist students to acquire computational skills                                   | 3.29 | 0.17 | 9 <sup>th</sup>  |
| 3        | assist students to prepare well for examinations                                  | 3.28 | 0.14 | 10 <sup>th</sup> |
| 19       | can make students' value teaching-learning                                        | 3.25 | 0.10 | 11 <sup>th</sup> |
| 15       | promote interaction in the class necessary for meaningful learning among students | 3.25 | 0.10 | 12 <sup>th</sup> |
| 6        | make learning interesting                                                         | 3.22 | 0.20 | 12 <sup>th</sup> |
| 12       | enhance learning among students                                                   | 3.14 | 0.35 | 14 <sup>th</sup> |
| 11       | make students to develop practical skills for learning                            | 3.12 | 0.37 | 15 <sup>th</sup> |
| 9        | promote students' hand-eye coordination necessary for learning                    | 3.07 | 0.44 | 16 <sup>th</sup> |
| 10       | promote visual scanning needed for learning                                       | 3.01 | 0.50 | 17 <sup>th</sup> |
| 14       | make students to be active in class                                               | 2.90 | 0.60 | 18 <sup>th</sup> |



| Item No.          | In my view, video games                              | Mean        | SD   | Rank             |
|-------------------|------------------------------------------------------|-------------|------|------------------|
| 13                | supplement school instructional materials            | 2.77        | 0.70 | 19 <sup>th</sup> |
| 8                 | improve students' performance in instructional tasks | 2.66        | 0.77 | 20 <sup>th</sup> |
| <b>Grand mean</b> |                                                      | <b>3.26</b> |      |                  |

Table 4 presents the mean and rank order of respondents' expression on the video games influence on students' learning. Item 16 was ranked 1<sup>st</sup> with mean score of 3.70 and states that video games help to develop students' mental ability, item 7 ranked 2<sup>nd</sup> with mean score of 3.63 and states that video games improve students' memory and item 18 was ranked 3<sup>rd</sup> with mean score of 3.61 and states that video games promote students' interest in academic activities. On the other end, item 14 was ranked 18<sup>th</sup> with mean score of 2.90 and states that video games make students to be active in class, item 13 was ranked 19<sup>th</sup> with mean score of 2.77 and states that video games supplement school instructional materials and item 8 was ranked 20<sup>th</sup> with mean score of 2.66 and states that video games improve students' performance in instructional tasks. The table indicates that all the items have mean scores that are above the mid-cut off point of 2.50; this indicates that the respondents attested to the fact that video games influence students' learning positively as listed in the research instrument.

**Research Question Two:** How do social media influence students' learning expressed by secondary school teachers in Kwara State?

**Table 5: Mean and Rank Order on the Respondents' Expression on Social Media and Learning**

| Item No. | In my opinion, social media enable students to                       | Mean | SD   | Rank             |
|----------|----------------------------------------------------------------------|------|------|------------------|
| 17       | engage in personal reading and studying                              | 3.66 | 0.55 | 1 <sup>st</sup>  |
| 10       | communicate with friends on how to improve in their studies          | 3.60 | 0.49 | 2 <sup>nd</sup>  |
| 2        | get latest information                                               | 3.60 | 0.49 | 3 <sup>rd</sup>  |
| 4        | devote to their academic activities                                  | 3.56 | 0.45 | 4 <sup>th</sup>  |
| 6        | engage in activities which are relevant to learning                  | 3.56 | 0.45 | 5 <sup>th</sup>  |
| 14       | engage in interactive learning (e.g video conferencing and chatting) | 3.53 | 0.41 | 6 <sup>th</sup>  |
| 7        | engage in studying                                                   | 3.48 | 0.35 | 7 <sup>th</sup>  |
| 1        | learn new things                                                     | 3.47 | 0.33 | 8 <sup>th</sup>  |
| 8        | engage in activities that can promote learning                       | 3.46 | 0.32 | 9 <sup>th</sup>  |
| 15       | learn on their own                                                   | 3.44 | 0.28 | 10 <sup>th</sup> |
| 9        | get ideas from friends on their studies through chatting             | 3.41 | 0.22 | 11 <sup>th</sup> |
| 12       | performs excellently well in different subjects                      | 3.39 | 0.17 | 12 <sup>th</sup> |
| 5        | engage in research by consulting online materials                    | 3.30 | 0.24 | 12 <sup>th</sup> |
| 11       | learn on how to relate with other students on their academics        | 3.29 | 0.26 | 14 <sup>th</sup> |
| 13       | learn spellings                                                      | 3.28 | 0.28 | 15 <sup>th</sup> |
| 3        | interact with class mates online                                     | 3.26 | 0.32 | 16 <sup>th</sup> |
| 16       | learn pronunciations                                                 | 3.22 | 0.37 | 17 <sup>th</sup> |

| Item No.          | In my opinion, social media enable students to                             | Mean | SD   | Rank             |
|-------------------|----------------------------------------------------------------------------|------|------|------------------|
| 19                | learn behaviours which can influence positively their academic performance | 3.07 | 0.54 | 18 <sup>th</sup> |
| 20                | learn the skills to do assignments on social network sites                 | 3.01 | 0.59 | 19 <sup>th</sup> |
| 18                | learn skills to participate in e-learning                                  | 2.62 | 0.86 | 20 <sup>th</sup> |
| <b>Grand mean</b> |                                                                            |      |      | <b>3.36</b>      |

From Table 5, it can be observed that all the 20 items on influence of social media on students' learning have mean scores that are above the cut-off of 2.5. Items 17, 10 and 2 were ranked 1<sup>st</sup> and 2<sup>nd</sup> respectively with mean scores of 3.66, 3.60 and 3.60. Item 17 states that social media make students to engage in personal reading and studying among others as stated in the table. On the other end, items 19, 20 and 18 were ranked 18<sup>th</sup>, 19<sup>th</sup> and 20<sup>th</sup> respectively with mean scores of 3.07, 3.01 and 2.62. Item 19 states that social media make students to learn behaviours which can influence positively their academic performance. The table indicates that all the items have the mean scores that are above the mid-cut off point of 2.50; this indicates that the respondents attested to the social media influence on students' learning listed in the instrument.

### Hypotheses Testing

Four null hypotheses were postulated and tested in this study. The hypotheses were tested using t-test statistical method at 0.05 levels of significance.

**Hypothesis One:** There is no significant difference in the influence of Video games on students' learning as expressed by secondary school teachers in Kwara State based on age.

**Table 6: t-test results on the respondents' expression on the influence of video games on students' learning based on age**

| Age              | N   | Mean  | SD   | Df  | Cal. value | t- p-value |
|------------------|-----|-------|------|-----|------------|------------|
| Below 40 years   | 160 | 65.38 | 6.78 | 418 | 0.47       | .640       |
| 41 years & above | 260 | 65.04 | 7.91 |     |            |            |

Table 6 shows that the calculated t-value of 0.47 is not significant with p-value of .640 which is higher than 0.05 alpha levels. Since the p-value is greater than the alpha level, the hypothesis which states that there is no significant difference in the influence of video games on students' learning as expressed by secondary school teachers in Kwara State based on age is therefore not rejected.

**Hypothesis Two:** There is no significant difference in the influence of social media on students' learning as expressed by secondary school teachers in Kwara State based on age.

**Table 7: t-test results on the respondents' expression on the influence of social media on students' learning based on age**

| Age              | N   | Mean  | SD   | Df  | Cal. value | t- p-value |
|------------------|-----|-------|------|-----|------------|------------|
| Below 40 years   | 160 | 67.44 | 5.73 | 418 | 0.57       | .570       |
| 41 years & above | 260 | 67.07 | 7.72 |     |            |            |



Table 7 indicates that the calculated t-value of 0.57 is not significant considering the p-value of .570 which is higher than 0.05 alpha levels. Thus, the hypothesis which states that there is no significant difference in the influence of social media on students' learning as expressed by secondary school teachers in Kwara State based on age is therefore not rejected.

**Hypothesis Three:** There is no significant difference in the influence of video games on students' learning as expressed by secondary school teachers in Kwara State based on gender.

**Table 8:** t-test results on the respondents' expression on the influence of video games on students' learning based on gender

| Gender | N   | Mean  | SD   | Df  | Cal. t-value | p-value |
|--------|-----|-------|------|-----|--------------|---------|
| Male   | 129 | 65.78 | 7.91 | 418 | 1.13         | .276    |
| Female | 291 | 65.89 | 7.30 |     |              |         |

Table 8 indicates that the calculated t-value of 1.13 is not significant considering the p-value of .276 which is higher than 0.05 alpha levels. Since the p-value is greater than the alpha levels, the hypothesis which states that there is no significant difference in the influence of video games on students' learning as expressed by secondary school teachers in Kwara State based on gender is therefore not rejected.

**Hypothesis Four:** There is no significant difference in the influence of social media on students' learning as expressed by secondary school teachers in Kwara State based on gender.

**Table 9:** t-test on the respondents' expression on the influence of social media on students' learning based on gender

| Gender | N   | Mean  | SD   | df  | Cal. t-value | p-value |
|--------|-----|-------|------|-----|--------------|---------|
| Male   | 129 | 67.64 | 7.47 | 418 | 0.81         | .420    |
| Female | 291 | 67.02 | 6.82 |     |              |         |

Table 9 shows that the calculated t-value of 0.81 is not significant taking into consideration the p-value of .420 which is higher than 0.05 alpha levels. Thus, the hypothesis which states that there is no significant difference in the influence of social media on students' learning as expressed by secondary school teachers in Kwara State based on gender is therefore not rejected.

## Discussion

The study revealed that video games helped students to develop mental ability, improve memory and promote interest in academic activities. This indicated that video games assist students in learning. The findings were in line with previous research (Chuang & Chen, 2007; Huizenga, ten Dam, Voogt & Admiraal, 2017; Marino, Israel, Beecher & Basham, 2013; Squire, 2003). Squire (2003) had earlier noted that video games can promote hand-eye coordination, visual scanning, auditory discrimination, and spatial skills. Chuang and Chen (2009) found that numerical game engagement enhance participants' recollection procedure as well as problem resolution competence. In Marino & Haliz (2013) study;

students' preference to acquire scientific lessons through video games over other mode of instructions reflects the constructive impact of video games on their learning outcomes.

Huizenga *et al* (2017) opined that game-support instruction stimulates students' interest in the course of learning, encourage mental process effectively. The reasons for the findings could be that teachers through in-service training in Kwara state might have been exposed to various strategies which include video games strategy for instructional purposes and they might have gain understanding regarding the role of video games in facilitating learning processes, hence their concordance with all the items that favoured positive influence of video games on students' learning.

The study also revealed that social media make students to engage in personal reading and studying, communicate with friends on how to improve in their studies and to get latest information. This indicated that social media also promote students' learning. The findings were supported by Ahn (2011) who recounted that Social Link Sites offer a forum for the users to engage in events that assist them to discover, and rehearse skills featuring specific knowledge domain, those college students generate enormous amount of script amidst several social media devices such as blogs, emails and other social media settings. Teachers in Kwara state have similar views to previous researchers probably due to their exposure and use of various social media to facilitate their professional duties.

Hypothesis one indicates that teachers who are 40 years and below as well as those who are 41 years and above did not significantly differ in their expression on the influence of video games on students' learning. This shows that age did not significantly influence the expression of the respondents on influence of video games on students' learning. The finding was in line with previous researchers (Alsaffar, 2016; Marti-Parreno, *et al*. 2018).

Alsaffarr noted that the age of the teachers did not affect their perception of success of educational electronic games in mathematics. Teachers across various age groups do play games of different sorts and probably are using games in facilitating learning process; hence they have similar view on the influence of video games on students learning. Similarly, Marti-Parreno Haliz., (2018) found no significant difference in the view of schoolteachers regarding the use of instructional video games. The findings differ from that of Hamari and Nousiaien (2015) who noted age discrepancy in teachers identified worth of the use of instructional video games. Sanchez-Mena *et al* (2017) also revealed that old and young higher education teachers differ in their perceptions of the usefulness of educational video games in learning which is dependent on how easy they view educational video games to be in their usage

Hypothesis two revealed no significant difference in the influence of social media on students' learning as expressed by secondary school teachers in Kwara State based on age. This shows that age would not significantly influence the expression of the respondents on influence of social media on students' learning. This was in line with the submission of Mazman and Usluel (2011) who noted that the social media has often been associated with young people, but it has attracted both men and women from diverse ages, educational attainments, traditions, amongst others. The finding negates Sudha and Kavitha (2016) findings that revealed age as being significant in the perception of lecturers on negative influence of social media on students' performance.

The findings of hypothesis three indicated that there was no significant difference in the influence of video games on students' learning as expressed by secondary school teachers in Kwara State based on gender. The finding was in line with Alsaffar (2016) who noted that

the gender of the teacher did not affect their perception of success of educational electronic games in mathematics. The findings of this study were incongruent with Baek (2008) and Bakar *et al.* (2006) findings. Baek found that male and female teachers considered varying factors as impediments hampering the utilisation of video games in classroom. Bakar and others found disparities between male and female teachers on the form of games they favoured as instructional tools.

However, concern aroused as possible gender differences in gaming are considered. By and large, significant proportion of game users are males (Shaw, 2012) and females naturally display greater degree of apprehension than males with respect to online games engagement (Huang *et al.* 2013) and if not appropriately addressed, gender differences could promote gender inequity when games are used for education.

Hypothesis four revealed that there was no significant difference in the influence of social media on students' learning as expressed by secondary school teachers in Kwara State based on gender. This shows that gender have no influence on the perception of teachers regarding the impact of social media on students' learning. This was not in line with previous researchers who identified gender differences (although inconsistent) on adolescents' daily use of Internet (Haythronthwaite, 2005; Lenhart *et al.* 2005). Prior investigations acknowledged that male utilises the worldwide web increasingly often, for extensive and for varied purposes than females do (Gross, 2004; Haythronthwaite, 2002). Girls also reported utilising text messaging increasingly frequent as compared to boys (Lenhart *et al.* 2005) and are more likely to be involved in other online social interactions, such as using e-mail, than are boys (Subrahmanyam *et al.* 2001). Gender significantly influence the perception of university lecturers on the negative influence that social media has on students' performance (Sudha *et al.* 2016).

## **Conclusion**

The findings of the study revealed that video games help to develop students' mental ability, improve students' memory, and promote students' interest in academic activities. The study also revealed that social media make students to engage in personal reading and studying, communicate with friends on how to improve in their studies and to get latest information.

The study also revealed that there was no significant difference in the influence of video games and social media on students' learning as expressed by secondary school teachers in Kwara State based on age and gender. It therefore implies that the use of video games and social media in promoting students' learning may not be hindered by differences in age and gender of teachers. The findings of the study are also indicative of the bridge in generational gap in technology across age range and gender.

## **Recommendations**

Based on the findings of this study, it was recommended that:

- i. School counsellors should sensitize students on the beneficial use of social media in augmenting their knowledge level as well as currency in terms of new developments in different disciplines.
- ii. Schools should integrate into their curricula the use of the new technology for information and communication especially the more accessible communication tools and sites like cell phones, Facebook, Twitter, etc. through which educative information can be shared among students to aid learning.
- iii. Parents, guardians, tutors, religious leaders, among others should monitor their wards on how they use video games and social media sites and what they use the sites for.

They should also encourage them (youths) to engage the tools pro-actively and profitably.

- iv. Policy makers should evolve strategies to guide and ensure that social networking sites are adopted mostly for academic purposes especially among the students.
- v. Teachers and other educators should engage students positively through social media, just like the classroom discussion group that is now available in the social networking sites, so that students will be directly using social networking sites, like games and chatting with friends when they are online for learning purposes.

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