Secondary School Agricultural Science Teachers' Perceptions of Social Media Use in Teaching in Ilorin Metropolis, Nigeria

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Abstract

This study examined secondary school teachers' perceptions of social media use in teaching agricultural science in Ilorin Metropolis, Nigeria. Four research questions were raised and two null hypotheses were formulated to guide the study. Descriptive research of the survey method was adopted for the study. A total of 84 respondents formed the sample size for the study. Researchers' designed questionnaire was used as an instrument for data collection. Descriptive statistics were used to analyze the research questions while t-test and ANOVA were used to test the null hypotheses at 0.05 level of significance. The findings revealed that the teachers had negative perception on the use of social media for teaching. It was recommended among others that schools and Ministry of Education and other parastatals should organize workshops and seminars on the use of social media and ICTs in teaching to ameliorate the negative perceptions of social media use for teaching agricultural science.

Keywords: Senior school, Teachers, Perceptions, Social media, Agricultural science

Introduction

Education is an essential component of long-term development, and its importance, particularly in developing nations, is growing as pressure mounts to catch up with the developed world in order to maintain global competitiveness. Education refers to all conscious and unconscious, direct and indirect efforts made by a society to achieve particular goals that are deemed desirable in terms of the people's own needs as well as the needs of the society in which that education is based. Education is intended to improve government, individual empowerment, health, infrastructure, and crime reduction, as well as agriculture, particularly food production.

Agriculture as opined by Iwena (2015) is a conscious endeavour by man to cultivate the soil, grow crops, and raise animals for food and other needs. Agriculture has progressed due to its importance in poverty reduction and the economy of emerging countries. Agriculture, according to the World Bank (2008), is critical to poverty reduction and economic growth in the twenty-first century.As a result, policymakers and educators have been debating what it means to be agriculturally literate in a digital age.Most educators today agree that literacy instruction should not be limited to the classroom alone, but should also include the use of social media and, at the very least, computing skills, the identification and use of audiovisuals in the classroom, as well as assistive technology devices and other teaching resources (Deil-Amen, 2016).As a

global phenomenon in the realm of information and communication technology (ICTs), social media has had a huge impact on many aspects of human endeavours, including education.

Individuals or organizations can create and engage with user-generated content in digital settings using social media platforms, which are either web-based or mobile applications (Deil-Amen, 2016). Al-Bahrani and Patel (2015) viewed social media as virtual communities or networks that enable users to engage with one another, build communities, and share information and ideas. Social media is unique in that it can be accessed not just through desktop or laptop computers, but also through mobile applications and smartphones. Facebook, Twitter, YouTube, WhatsApp, Instagram, Blogs, Telegram, Zoom,Google classroom, and Skype are just a few of the most popular social media platforms in the world (Sampson &Ebong, 2019).

There are a variety of viewpoints on social media use, which differ from person to person. In a single article, it is impossible to cover all elements of how students use social media. Despite the government's regulation prohibiting secondary school students from using cell phones in schools, these students have access to the internet through the use of smartphones, laptops, and desktop computers in and out of school. The majority of these students use their phones, especially smartphones, to access social media and talk with old and new acquaintances, as well as play games for leisure. These truancy acts of

using phones while studying if well explored can be used to harness agricultural students love for the course if teachers are willing to utilize it. Students, on the other hand, may utilize social media to study and improve their academic performance.

The way social media is used and the important issues that should be considered for using new technologies cannot be resolved unless there is a clarification concerning how teachers view its usage in teaching (Brendon, 2018). Few studies have investigated secondary school teachers' perceptions of social media use in the teaching, amongst is Mkpa (2020) who investigated the perception and the use of social media by junior secondary school teachers in Abia State, Nigeria, the study found out that junior secondary school teachers in Abia State, were familiar with Facebook, WhatsApp, Twitters and YouTube in teaching and that teachers had positive perceptions of social media use in education. Albalawi (2017) assessed the Mathematics teachers' perception of using social media in their teaching in Tabuk, Saudi Arabia. Albalawi found out that Mathematics Teachers in Tabuk, Saudi Arabia had a positive perception of using social media in teaching Mathematics. Furthermore, Ahmed (2016) examined the social media integration in secondary Education in Pakistan and that Facebook, Twitter, WhatsApp, Instagram, Google doc, YouTube, Flicker, My space, and Pinterest were the most common types of social media used by secondary school teachers in Pakistan.

Hew (2011) emphasizes the importance of widening the research contexts for social media in education, arguing that future research should look at different contexts or variables. There has been a noticeable paucity of research on the use of social media in agricultural teaching. In particular, there is a chasm in how social media is seen in agricultural science education, prompting more research in this area. The purpose of this study was to address a gap in the literature by assessing secondary school teachers' perceptions of the use of social media in teaching agricultural science in Ilorin Metropolis, Nigeria.

Purpose of the Study

The main purpose of the study was to examine secondary school agricultural science teachers' perceptions of social media usein teaching of agricultural science in Ilorin metropolis, Kwara State, Nigeria.Specifically, the study sought to find out:

1. the type of social media preferred by secondary school agricultural science teachers in teaching;
2. the extent to which secondary school agricultural science teachers use social media in teaching;
3. perceptions of secondary school agricultural science teachers on the use of social media in teaching;
4. perceived challenges secondary school agricultural science teachers face in the use of social media for teaching.

Research Questions

1. What are the types of social media preferred bysecondary school agricultural science teachers in teaching?
2. What is the extent to which secondary school agricultural science teachers use social media in teaching?
3. How do secondary school agricultural science teachers perceive the use of social media in teaching?
4. What are the perceived challenges secondary school agricultural science teachers face in the use of social media for teaching?

Research Hypotheses

H_{o1}:   There is no significant difference in the mean ratings of male and female agricultural science teachers' perception of social media usein teaching.

H_{o2}:   There is no significant difference in the mean ratings of agricultural science teachers'perception of social media use in teaching based on qualification.

Methodology

The study was a descriptive research design of the survey type. The population of this study comprised allagricultural science teachers in Ilorin Metropolis, Kwara State. A simple random sampling technique was used to select theagricultural scienceteachers from 31 secondary schools inthe Ilorin metropolis, Kwara State making a total of 84 respondents for the study. The instrument for data collection was the researchers' designed questionnaire. The questionnaire consisted of four sections: A,B,C and D. Section A elicited information on the various type of social media Preferred for use

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in teaching agricultural science with a Likert type scale of Preferred (2), Not Preferred (1) while Section B was used to elicit information on the extent to which teachers use social media with a scale of Very often (4), Sometimes (3), Rarely (2) and never (1) being the responses for the question. Section C collected data on teachers' perceptions of social media use in the teaching agricultural science with a close-ended item with Likert scale of Agree (2), Disagree (1) and which was adapted from Albalawi(2017). Section D determined the perceived challenges teachers face in the use of social media for teaching with a scale of Yes (2) and No (1).The instrument was validated by three (3) research experts in the Department of Science Education at University of Ilorin, Ilorin. Their comments and suggestions were used to improve the face and content validity of the questionnaire.The reliability of the instrument was realized through the test re-test method.

The questionnaires were administered to 20 agricultural science teachers in Ifelodun Local Government Area of Kwara State, which was within the population but outside the study area, Ifelodun has the same characteristics as the study area in almost all dimensions. After a period of four weeks, the same instrument was re-administered on the same group of people. The two sets of scores obtained differently on the two occasions were correlated to determine the reliability of the instrument using Pearson Product Moment Correlation Co-efficient (r) statistical method which yielded a coefficient of 0.79.The researchers in the company of three (3) trained research assistants administered the questionnaire on the spot to ensurea high retrieval rate.Mean and mean ranking were used to answer the research questions. In testing the hypotheses formulated, t-test and ANOVA were employed to test the hypotheses at 0.05 level of significance. The analysis was carried out using Statistical Package for Social Science Software (SPSS version 20.0).

Results

Table 1: Mean Ranking of the types of social media preferred by secondary school agricultural science teachers in teaching

S/N	Items	Preferred (%)	Not Preferred (%)	Mean	Ranking
1.	Twitter	23.8	76.2	1.24	4
2	WhatsApp	65.5	34.5	1.65	1
3	Face book	52.4	47.6	1.52	2
4	YouTube	34.5	65.5	1.32	3
5	Instagram	13.1	86.9	1.13	6
6	Skype	0	100.0	1.00	9
7	Imo	0	100.0	1.00	9
8	Telegram	0	100.0	1.00	9
9	Messenger	7.1	92.9	1.07	7
10	Hangout	3.6	96.4	1.03	8
11	E-mail	22.6	77.4	1.23	5

Source: Field Survey, 2018

Table 1 shows the percentages, mean and rating of the type of social media Preferred for use in teaching agricultural science. The table shows that of all the 11 items on type of social media only 2 are above the benchmark average mean value of 1.50. However, the extent to which they are preffered by teachers for teaching agricultural science differs as WhatsApp and Facebookhad a mean score of 1.65 and 1.52 and were ranked 1st and 2rd respectively. This implies that WhatsApp andfacebook were the most types of social media platforms used by teachers for teaching Agricultural Science.

Table 2: Mean Response of extent to which secondary school agricultural science teachers use social media in teaching

S/N	Items	Very Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Mean	Remark
12	Twitter	6.0	8.3	4.8	81.0	1.39	Never
13	WhatsApp	17.9	40.5	7.1	34.5	2.42	Rarely
14	Face book	9.5	32.1	10.7	47.6	2.04	Rarely
15	YouTube	16.7	10.7	6.0	66.7	1.77	Rarely
16	Instagram	0.0	0.0	14.3	85.7	1.14	Never
17	Skype	0.0	0.0	0.0	100.0	1.00	Never
18	Imo	0.0	0.0	0.0	100.0	1.00	Never
19	Telegram	0.0	0.0	0.0	100.0	1.00	Never
20	Messenger	0.0	7.1	1.2	91.7	1.15	Never
21	Hangout	0.0	0.0	3.6	96.4	1.03	Never

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| 22 | E-mail | 10.7 | 11.9 | 17.9 | 59.5 | 1.73 | Rarely |
| | **Grand total** | | | | | **1.42** | **Never** |

Source: Field Survey, 2018

Table 2 shows the percentages, mean, and ranking of the extent to which teachers make use of social media in teaching agricultural science. The table shows that of all the 11 items on type of social media only three are above the benchmark average mean value of 2.5.However, the extent to which they are used for teaching agricultural science by teachers differs as WhatsApp, Facebook, and YouTube had mean scores of 2.42, 2.04 and 1.77 were ranked 1, 2 and 3 respectively. This implies that teachers make use of WhatsApp, Facebook and YouTube to teach agricultural science. However, WhatsApp had a mean of 2.42 followed by Facebook with a mean score of 2.04 are the most used

Table 3:Mean Ranking of how secondary school agricultural science teachers perceive the use of social media on teaching

S/N	Items	Agree (%)	Disagree (%)	Mean	Rank
23	I adopt the use of social media as one of my techniques in teaching Agricultural Science	33.3	66.7	1.21	5
24	I make available my social media contacts to students at the beginning of the term	63.1	36.9	1.63	2
25	I encourage students toformsocial media groups for increased learning engagement	50.0	50.0	1.50	3
26	I encourage students to use social media for obtaining other relevant materials in order to improve their academic achievement	10.7	89.3	1.31	4
27	The use of social media can help me implement the concept of learning together or collaborative learning	3.6	96.4	1.03	8
28	I deliver some contents of the subject to my students through social media	0.0	100.0	1.00	10
29	I attend to students learning challenges through social media	6.0	94.0	1.00	7
30	I send some materials on the subject through the use of social media platforms	0.0	100.0	1.00	10
31	I assign students extra curricula activities through social media	7.1	92.9	1.07	6
32	I train students to manage the content of the curriculum and have discussion through the social media	3.6	96.4	1.03	8
33	I give students the chance to search for additional materials using social media	69.0	31.0	1.69	1
	Grand Total			**1.22**	

Source: Field Survey, 2018

Table 3 shows the percentages, mean and Ranking of how secondary school agricultural science teachers perceive the use of social media in teaching. The table shows that of all the 11 items on teacher use of social media only 3 are above the benchmark average mean value of 1.50. However, the extent to which they are used by agricultural science teachers for teaching differs as responses to 'I give student my social media contact information at the beginning of the term' had a mean of 1.63 and was ranked 2nd. The mean of respondents' responses to 'I encourage students to form groups on social media is 1.50 and was ranked 3rd. The mean of respondents' responses to 'I give students the chance to search for information using social media is 1.69 and was ranked 1st.This implies that teacher use of social media for the teaching of agricultural science include

giving out their contact to students, encouraging students to form a group and giving students the chance to search for information using social media. Since the grand means of all the items is 1.22 which is less than a benchmark of 1.5, it implies that the secondary school agricultural science teachers had

negative perceptions of social media use in teaching in Ilorin Metropolis, Kwara State, Nigeria.

Table 4: Mean Ranking of perceived challenges secondary school agricultural science teachers face in the use of social media for teaching

S/N	Items	Yes (%)	No (%)	Mean	Rank
34	Posting of irrelevant information/ materials among students constitute a challenge	55	45	1.85	7
35	Inadequate supply of electricity	75	25	2.06	6
36	Lack of smartphones to access social media platforms among students	90	10	2.26	2
37	Through the use of social media, students attentions may be distracted during instruction	89	11	2.25	3
38	social media cannot be used during instruction as students are not allowed to bring phones to schools	85	15	2.20	4
39	Students may not have money to subscribe social media	97	3	2.31	1
40.	Students dislike the use of social media for learning	60	40	2.14	5

Source: Field Survey, 2018

Table 4 shows the percentages; mean and ranking of challenges of secondary school teachers in the use of social media for the teaching of Agricultural Science. Table 4 further shows that students may not have money to subscribe to social media with a mean of 2.31 ranked first (1st), lack of smartphone to access social media platforms among students with a mean of 2.26 ranked second (2nd), through the use of social media, students attentions may be distracted during instruction with a mean of 2.25 was ranked third (3rd), the use of social media cannot be used during instruction as students are not allowed to bring phones to school with a mean of 2.20 was ranked fourth (4th), students dislike the use of social media for learning with a mean of 2.14 ranked 5th, inadequate supply of electricity with a mean of 2.06 ranked sixth (6th) and posting of irrelevant information/materials among students constitute a challenge with a mean of 1.85 ranked seventh (7th). This implies that the prominent challenges teachers in the use of social media for the teaching of Agricultural Science were: students may not have money to subscribe social media, lack of android phone to access social media platforms among students, through the use of social media, students attentions may be distracted during instruction, the use of social media cannot be used during instruction as students are not allowed to bring phones to school, students dislike the use of social media for learning and inadequate supply of electricity

Hypotheses
Two null hypotheses were formulated for this study. The hypotheses were tested at 0.05 level of significance, using t-test and ANOVA. The results of the hypotheses tested are thus presented.

Table 5: t- test showing difference in the mean ratings of male and female Agricultural Science teachers' perceptions of social media use in teaching

Gender	N	X	Std.	df	t-Val.	Sig.	Decision
Male	37	13.76	1.60				H_{02}
				82	1.94	.09	Not Rejected
Female	47	12.73	0.91				

$\rho > 0.05$

Table 5 shows the calculated t-value was 1.94 while its calculated significance value is .09 of df 2/82 at alpha level of 0.05. On this basis, null hypothesis was therefore not rejected. This implies that there was no significant difference in the mean ratings *of* male and female Agricultural Science teachers' perceptions of social media use in teaching.

Table 6: ANOVA showing no significant difference in the mean ratings of Agricultural Science teachers'

perception of social media use for teaching based on qualifications

Source of Variance	Sum of Square	Df	Mean of Square	F	Sig.	Decision
Between Groups	21.86	2	10.93	1.34	0.17	H_{05} Not Rejected
Within Groups	661.20	81	8.16			
Total	683.06	83				

$\rho > 0.05$

Table 6 shows an F-value 1.34 with calculated significant .17 at 0.05 alpha level. Since p-value of 0.17 is greater than 0.05 alpha level, hypothesis two is thus not rejected.This implies that there is no significant difference in the mean ratings of Agricultural Science teachers' perception of social media use for teaching based on qualifications.

Discussion

The study examined secondary school agricultural science teachers' perceptions of social media use in teaching in Ilorin Metropolis, Nigeria. The study revealed thatWhatsApp and Facebook were the most types of social media platforms that secondary school teachers made use offor teaching. Findings showed that WhatsApp and Facebook happened to be the most type of social media used by the teachers for teaching. This result may be due to fact that WhatsApp and Facebook are easily accessible by secondary school agricultural science teachersfor teaching.This result tallies with the findings of Mkpa (2020) who concluded that junior secondary school teachers in Abia State, Nigeria were familiar with Facebook, WhatsApp, Twitters and YouTube for teaching.This result is also in concordance with that of Ahmed (2016) whofound out that Facebook, Twitter, WhatsApp, Instagram, Google doc, YouTube, Flicker,Myspace and Pinterest were the most common types of social media used by secondary school teachers in Pakistan. This was also relatively in line with the findings of Irwin, Ball, Desbrow, and Leveritt (2012) who found that popular social media such as Facebook, YouTube, Twitter, MySpace, LinkedIn, Flicker, Slideshare, blogs, wikis, and podcasts are used in education.

Furthermore, it was revealed that secondary school teachers had low extent to which they make use of social media in teaching of agricultural science. The result may be due to the fact that teachers are sceptical or unconvinced on the integration of social media in teaching of Agricultural Science. This result contradicts that of Mkpa (2020) that junior secondary school teachers in Abia State, Nigeria had a high extent on social media utilization in teaching. It also collaborates the submission of Farr (2016) who argue that teachers are slower to adopt the use of social media in teaching

Also, the study showed that Secondary School Teachers had negative perceptions of social media usefor teaching Agricultural Science. This result may be as a result of low use of social media in teaching in the study area. This result contradicts the finding of Mkpa (2020) that junior secondary school teachers in Abia State, Nigeria had a positive perception about social media's impact on education and its use.This result also contradicts that of Albalawi (2017) that Mathematics Teachers in Tabuk, Saudi Arabia had a positive perception of using social media in teaching Mathematics.

It was further revealed that the prominent challenges teachers in the use of social media for the teaching of Agricultural Science were: students may not have money to subscribe to social media, lack of smartphone or android phone to access social media platforms among students,through the use of social media, students attentions may be distracted during instruction, the use of social media cannot be used during instruction as students are not allowed to bring phones to school, students dislike the use of social media for learning and inadequate supply of electricity.This finding supports the results of Zanamwe (2013) that security, unproductive behaviour/ waste time, misuse of tools during instructional time, anti-social behaviour, unsolicited negative comments, exposes students to inappropriate material, the harmful stomping ground for cyberbullies and social predators, information overload as challenges associated with the use of social media in the higher institution in Zimbabwe

It was revealed that Agricultural science teachers' gender and qualification have no significant influence in their perceptions of social media use in the teaching of Agricultural Science. This is in line with the findings of Mkpa (2020) that there was no significant difference between male and female teachers' perception of social media utilization in Abia State, Nigeria. This is also supported by the assertion of Cakir(2015) who posited that perception can be influenced by the personality characteristics of the perceiver which gender is one of the characteristics.

Conclusion

Based on the findings of the study, it can be concluded that secondary schoolagricultural science teachers were making use of social media for teaching. However, the extent of its usage is low and still majorly restricted to few types of social media (Facebook and WhatsApp). Also, most of the teachers perception of social media use is that students should be encouraged to form group and search for information using social media.Thus, there is a need to change the negative perception of secondary school agricultural science teachers and ease the challenges they faced in the use of social media for teaching.

Recommendations

The following are the recommendation made based on the findings of this study:

1. Schools and Ministry of Education and other parastatals should organise workshops and seminars on the use of social media and ICTs in teaching to ameliorate the negative perceptions of social media use for teaching agricultural science by teachers.
2. Teachers should strive to make use of easy interaction and communication offered by the available social media to improve the teaching and learning of Agricultural science.
3. The frequency with which teachers make use of social media for teaching should be increased from sometimes to very often.
4. The cost of subscribing data should be made cheaper or free for students and teachers in secondary schools to allow them to enjoy the integration of social media in teaching and learning.

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