

Adoption of E-Learning Facilities in Teaching by Academic Staff of Federal University of Technology, Minna

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Abstract

This paper examined the Adoption of E-Learning by Federal University of Technology Minna, Niger State, academic staff. Four research questions and one null hypothesis were formulated to guide the study. The study adopted a case study research design, and the population comprised 150 academic staff, and 120 were used for further study. The observation checklist and questionnaire were the data collection instruments used. Data collected were analysed using descriptive statistics and inferential statistics (Pearson Product Moment Correlation) to answer the four research questions and one null hypothesis, respectively. The findings revealed that the Social media platforms used by academic staff to deliver lectures to students are mostly Facebook or What-app pages to broadcast updates and to, stream live lectures, and host discussions. It was concluded that despite the benefits of using social media platforms in teaching and learning to the students and teachers of the Federal University of Technology Minna. There was an agreed decision that the benefits of using social media platforms in teaching and learning are to: Learn new digital literacy skills, Improve knowledge retention and understanding, Increase class participation and motivate students and build a community to connect students to each and the global community. The challenges encountered by the academic staff and students in the e-teaching and learning process are misuse of tools during instructional time and antisocial behaviour; Students can be easily distracted; posting inappropriate content may harm the school's reputation and Internet issues. The study recommended, among others, that management should improve on the most used social media platform, such as Facebook and WhatsApp. Management should take advantage of social media platforms to cut across all the departments, training both staff and students on social media platforms.

Keywords: Adoption, E-Learning, Academic staff, Facilities, Teaching, Federal, University, Technology, Nigeria Minna

Introduction

The advent of information and communication technology now allows for easy access to information in a convenient form. Social media and social network services such as Facebook, Twitter, and WhatsApp enable easier accessibility and retrieval of information from anywhere and at any time. Through these apps, information is becoming intertwined with our daily lives and could either enhance productivity, efficiency and intelligence or make users vulnerable to its side effects (Fauzi, 2019). Using social media such as Facebook, WhatsApp, Instagram, Zoom, Skype, Webinars, and so on provides free access to online communication and information. Through these various platforms, teachers can connect with students and incorporate social media into their lessons, making them more attractive, relatable and engaging (Willbold, 2019). Today, social media and technology have become indispensable parts of our lives. Social networks have gradually emerged as a new avenue of communication between teachers and students, mainly in higher education, becoming an essential communicative tool (Akcaoglu & Bowman, 2016; Albayrak & Yildirim, 2015), generating diverse questions about teacher–student communication through social networks and their impact on the teaching–learning process (Hershkovitz & Forkosh-Baruch, 2013).

The use of social networks provides the opportunity for teachers and students to be in continuous contact transcending the conventional classroom and creating new teaching and learning spaces (Ean & Lee, 2016). However, this new reality has generated debates about whether teachers and students should interact this way, leading some authorities to restrict or prohibit such communication (Asterhan & Rosenberg, 2015). Supporters of the teacher–student interaction through social networks present arguments in favour, such as teachers' and students' freedom of expression, the inevitability of the phenomenon and the pedagogical potential of social networks (Greenhow et al., 2009). Social networks are great tools when it comes to interacting with students since it is something they are so familiar with, using these sites frequently throughout daily life (Segaren, 2019). In a university setting, social media can be helpful when it comes to reaching out and engaging with students (Segaren, 2019). It is a less formal way for lecturers to communicate, showing students a more personal side while improving the teacher–student relationship. It will not be wrong to say that social media and education go hand in hand in the modern world. However, the question that arises is: how is social media helpful to students? Are there ways that social media in education can benefit learners and help fill the gaps in teaching and learning? Jones (2015) wonders how lecturers might shift from 'uploading' content to students to a better teaching technique that allows students to participate more enthusiastically in the teaching and learning process, i.e. learner-centred approach.

Problem Statement

The emergence of internet technology has brought profound growth in the e-learning culture of tertiary institutions. Unfortunately, most Nigerian schools are yet to fully embrace and implement this may be because of the poor handling of the system by the management of the tertiary institution. This has been a significant problem to implement in schools fully. Researchers' preliminary investigation through interaction with both the staff and students of the Federal University of Technology Minna and personal observation reveals poor handling of the

e-learning process in Nigerian Universities. This and other factors formed the basis on which this research is carried out to unravel the adoption of e-learning by academic staff of the federal University of Technology Minna.

Research Questions

1. What social media platforms are used by academic staff to deliver lectures to students at the Federal University of Technology Minna?
2. What are the benefits of using social media platforms in teaching and learning to the students and teachers of the Federal University of Technology Minna?
3. What challenges are encountered by academic staff and students in the e-teaching and learning process at the Federal University of Technology Minna?
4. What is the most preferred online platform students want to receive lectures at the Federal University of Technology Minna?

Literature Review

Literature is a review based on previous studies undertaken to demystify the use of social media in classroom environments of higher education. In the subsequent sections, the authors reviewed the follow sources of information to add value to the work

Lim See Yin et al. (2014) investigated undergraduate informatics students' engagement with social media for academic purposes in Malaysia. The results revealed a close match of ownership, time spent online, types of social media users, and usage patterns between informatics and non-informatics students. The study also indicated that students and lecturers had accepted and explored the potency of social media for engagement with the institution and their peers, as well as for teaching and learning purposes. Similarly, Froment et al. (2017) analysed using social networks as a communication tool between teachers and found that they primarily communicate through social networks for academic reasons. The study revealed that teachers found Facebook and WhatsApp to be the most effective social media tools due to the popularity and versatility of Facebook and the easy-to-use communicative abilities of WhatsApp. For students taking distance learning courses or for lectures with large class sizes, teachers can make themselves more accessible to students via social media. They can hold 'virtual office hours' through Skype or get them to use Facebook, Twitter or WhatsApp to raise questions they did not get the chance to in class (Froment et al., 2017). Froment et al. (2017) concluded that teachers should use social networks as communication tools for purely academic-related issues, such as addressing aspects related to class organisation and coursework. The study by Chawinga (2017) incorporated Twitter and blogs into two undergraduate courses offered in the Department of Library and Information Science at Mzuzu University, a public university in Malawi. Results suggest that if appropriately deployed, Twitter and blogs are catalysts for the much-hyped learner-centred approach to teaching because, using these technologies, it emerged that students shared and discussed course materials, posted their course reflections and interacted amongst themselves and with their lecturer 24/7. WhatsApp is a primary mobile instant messaging application that enables users to send each other text, images, video and audio messages. It allows individuals to socialise and stay connected with the Internet connection available. Several studies found that using WhatsApp was an efficient communication technology and concluded that it was a helpful tool for transferring data rapidly (Dorwal et al., 2016; Gulacti et al., 2016).

Though there are lots of instant messaging applications that can operate on mobile devices, it seems that WhatsApp application is one of the most favoured mobile-based applications (see SimilarWeb, 2016; Statista, 2016). In their study, Church and de Oliveira (2013) emphasised this fact. They stated that WhatsApp has grown in popularity due to its benefits, such as being able to send real-time messages to an individual or groups of friends simultaneously, low cost, and privacy. WhatsApp development as a discussion group has been carried out by several researchers. Results from several studies have shown support for using WhatsApp as a discussion group (Martinez, 2017; Willemse, 2015). WhatsApp Group Discussion is a WhatsApp application feature to form a group that discusses a particular topic. One of the unique characteristics of WhatsApp is the capability to create and interact with groups of 3 to 256 members. Studies have shown that almost all students already have the WhatsApp application installed on their smartphone, and WhatsApp is the most commonly used application because it makes it easy for users and shortens the time to get information (Baro et al., 2015; Semode et al., 2017; Willemse, 2015). Fauzi (2019) conducted a study on the development of WhatsApp group discussions to solve the limitation of lecturer–students' interaction in class at Universitas Nahdlatul Ulama Blitar (UNU), Indonesia.

The research International information and library review is based on the idea of overcoming problems about the limited interaction between teachers and students in the classroom and responding to technological developments that enter education. The study produced a WhatsApp Group Discussion product that can be used in lectures. The results of the study showed that in combination, the product developed met the criteria sufficiently valid. This indicates that in terms of learning and technology, the product (WhatsApp Group Discussion) is feasible and can be used in lectures. This product can be used to overcome the problem of limited interaction between the lecturers and the students of UNU Blitar in the lecture class (Fauzi, 2019). Agbo et al. (2020) investigated students' perceptions and opinions regarding using WhatsApp social media groups for learning computing education in the Nigerian context. The study explores how social media usage by students influences their perceived learning outcomes. The study found a positive relationship between social media usage for computing education and perceived learning outcomes. In addition, the study found a linear relationship between communication in a group and perceived learning outcomes.

Similarly, Cetinkaya (2017) explored the effects of WhatsApp use for education and determined students' opinions toward the process. The analysis indicated that both learning environments have different effects on students' success and that supporting the traditional environment by using WhatsApp is more effective. The qualitative analysis showed that students developed positive opinions toward using WhatsApp in their courses. Respondents reported that learning could also occur unconsciously, and the messages with images were more effective for their learning. Benefits of using social media in education In recent times, social media such as Telegram, WhatsApp, Zoom, and Facebook have been used for collaborative learning and to create engagement among a network of students, thus making these integral media part of students' social and academic life (Agbo et al., 2020). Social media, by their nature, have the capabilities of educating, informing, entertaining and inflaming the audience, which is also the essential function of the mass media. Above all, they possess a contagious and outreaching influence that the conventional media lack (Agbo et al., 2020). This potential is most likely what Osahenye (2011) called the "unstoppable power of social media". Social media and social

network tools, especially WhatsApp Messenger, Facebook, and Viber, Skype, have become dominant factors in today's digital world and are affecting how users communicate and businesses operate (Yeboah et al., 2014). Social media has various uses in the classroom as well as to help market and promote schools and universities (West, 2019). West (2019) identified the following ways to use social media for education. First, social media provides a smoother, more direct communication tool between students, teachers and parents, who can check in and ask or respond to questions. Social media allows for more e-learning opportunities as well. As remote jobs and online classes are becoming more popular, training students to work from a distance is an important lesson, and social media can help. Research has shown that some social media platforms, such as WhatsApp, benefits such as the ability to create, share, adapt and reuse content, engage in digital dialogue and collaborate, have peer-to-peer contact, social interaction with other users, discoverability, and continuous accessibility have attracted a more significant number of digital communication users using the platform (Lenhart et al., 2007; Yeboah&Ewur, 2014). assessed the effectiveness of social media like WhatsApp in delivering knowledge to 4th-semester MBBS students and compared the improvement of knowledge gained through e-learning and didactic lecture. The post-test results revealed that the learners with WhatsApp as a learning tool scored 5–20 marks, while those with didactic lectures scored 3–17.5 marks and had an average of 11.6 and 11.9 scores, respectively. Technical, educational, and instructional advantages of teaching-learning activities via WhatsApp out pars disadvantages.

Methodology

The study adopted a case study research design as it deals with an in-depth investigation of an entity or organisation. At the same time, the population consists of 150 academic staff of the Federal University of Technology Minna. This University is a Technological one owned by Federal Government. Observation checklists and questionnaires were the instruments used in data collection. Mean and standard deviation and Pearson Product Moment Correlation (PPMC) were used to analyse research questions and test the null hypothesis, respectively.

Discussion of Findings

A total of one hundred and fifty (150) copies of questionnaires were distributed to the staff of FUT Minna. Out of the one hundred and fifty (150)copies of the questionnaires distributed, one hundred and twenty (120) copies were properly filled, retrieved altogether from the sampled academic staff of universities, and were valid for the research. This represent 80% response rate; that is $[(120/150)*100 = 80\%]$

Research question 1:

Table 1: What Social Media Platforms used by Academic Staff to deliver Lectures to Students in Federal University of Technology Minna?

	Social media platforms used	SA	A	D	SD	FX	Mean	Decision	Rank
		4	3	2	1				
1	Use of Facebook or What-app group to	38(31.7)	55(45.8)	20(16.7)	7(5.8)	364	3.03	Agree	2 nd

	stream live lectures and host discussions								
2	Use Facebook or What-app page to broadcast update	65(54.2)	45(37.5)	5(4.2)	5(4.2)	410	3.42	Agree	1 st
3	Use of Twitter as a class message board	15(12.5)	45(37.5)	40(33.3)	20(16.7)	295	2.46	Disagree	5 th
4	Use Instagram for photo essays	20(16.7)	33(27.5)	47(39.2)	20(16.7)	293	2.44	Disagree	6 th
5	Create class blog for discussion	40(33.3)	42(35.0)	28(23.3)	10(8.3)	352	2.93	Agree	4 th
6	Create a class- specific pint rest board	45(37.5)	40(33.3)	25(20.8)	10(8.3)	360	3.00	Agree	3 rd
Overall Mean							2.47		

From the table, values in the parenthesis are percentages of the frequency counts. Decisions are made on each response base on the overall mean (2.47). SA= Strong Agreed, A=Agreed, D= Disagreed, SD= Strongly Disagreed

Note: *Decision Rule: mean values less than 2.47 are regarded as disagreed, while those equal to or greater than 2.47 are agreed on.*

Research question one seeks to enquire about the social media platforms used by academic staff to deliver lectures to students in Federal University of Technology Minna. From the table, we observed that the respondents have an agreed decision on four social media platforms usage which are: (1) *Use of Facebook or What-app page to broadcast updates*, (2) *Use of Facebook or What-app group to stream live lectures and host discussions*, (3) *Create a class-specific pint rest board* and *Create a class blog for discussion* and (4) *Create a class blog for discussion*.

Based on the result, we deduce that the social media platforms used by academic staff to deliver lectures to students are mostly Facebook or What-app pages to broadcast updates and to, stream live lectures and host discussions.

Research question2:**Table 2: What are the Benefits of using Social Media Platforms in Teaching and Learning to the Students and Teachers of Federal University of Technology Minna?**

Benefits of using social media platforms in teaching			SA	A	D	SD	FX	Mean	Dec
			4	3	2	1			
1	Learn new digital literacy skills		65(54.2)	40(33.3)	10(8.3)	5(4.2)	405	3.38	Agree
2	Improve knowledge retention and understanding		70(58.3)	34(28.3)	16(13.3)	0(0.0)	414	3.45	Agree
3	Increase class participation and motivate students		75(62.5)	40(33.3)	5(4.2)	0(0.0)	430	3.58	Agree
4	Build community; connect students to each and the global community		66(55.0)	43(35.8)	6(5.0)	5(4.2)	410	3.42	Agree
5	Improve students writing (through writing for peers, feedback)		30(25.0)	25(20.8)	50(41.7)	15(12.5)	310	2.58	Disagree
Overall Mean								3.28	

From the table, values in the parenthesis are percentages of the frequency counts. Decisions are made on each response base on the overall mean (3.28). SA= Strong Agreed, A=Agreed, D= Disagreed, SD= Strongly Disagreed

Note: Decision Rule: mean values less than 3.28 are regarded as disagreed, while those equal to or greater than 3.28 are agreed on.

Research question two addresses the benefits of using social media platforms in teaching and learning to the students and teachers of Federal University of Technology Minna. From the table, 65 out of 120 respondents representing 54.2%, strongly agreed that the benefit of using social media platforms is to learn new digital literacy skills, and 40 out of 120 respondents representing 33.3%, agreed. 70 out of 120 respondents representing 58.3% strongly agreed that using social media platforms in teaching and learning improves knowledge retention and understanding; 34 representing 28.3%, Agreed with the same statement. 75, representing 62.5%, strongly agreed that it increases class participation and motivates students; 40 representing 33.3% agreed. 66 respondents representing 55.0%, strongly agreed that it builds community; connects students to each and the global community, and 43 respondents representing 35.8%, agreed to the same reason. 50, representing 41.7%, disagreed that it improves students writing (through writing for peers, feedback). While 15 respondents representing 12.5%, strongly agreed with the same statement.

Research question3:**Table 3: What are the Challenges encountered by both the Academic Staff and Students in the E-teaching and Learning process in Federal University of Technology Minna?**

challenges encounter	SA	A	D	SD	FX	Mean	This
	4	3	2	1			
1 Misuse of tools during instructional time and antisocial behaviour	70(58.3)	40(33.3)	10(8.3)	0(0.0)	420	3.50	Agree
2 Students can be easily distracted	55(45.8)	45(37.5)	15(12.5)	5(4.2)	390	3.25	Agree
3 Posting inappropriate content may harm the school's reputation	66(55.0)	54(45.0)	0(0.0)	0(0.0)	426	3.55	Agree
4 Students may find it hard to interact with each other if relying too much on social media.	20(16.7)	20(16.7)	46(38.3)	34(28.3)	334	2.78	Disagree
5 Internet issue	55(45.8)	65(54.2)	0(0.0)	0(0.0)	415	3.46	Agree
							3.26

From the table, values in the parenthesis are percentages of the frequency counts. Decisions are made on each response base on the overall mean (3.26). SA= Strong Agreed, A=Agreed, D= Disagreed, SD= Strongly Disagreed

Note: Decision Rule: mean values less than 3.26 are regarded as disagreed, while those equal to or greater than 3.26 are agreed on.

Research question three addresses the challenges encountered by the academic staff and students in the e-teaching and learning process in Federal University of Technology Minna. From the table, 70 out of 120 respondents representing 58.3%, strongly agreed that the challenges encountered are the misuse of tools during instructional time and antisocial behaviour, and 40 out of 120 respondents representing 33.3%, agreed. 55 out of 120 respondents representing 45.8%, strongly agreed that students could be easily distracted; 45, representing 37.5%, agreed to the same challenges. 66, representing 55.0%, strongly agreed that the challenges of posting inappropriate content might harm the school's reputation; 54, representing 45.0%, agreed. 46 out of 120 respondents representing 38.3%, disagreed with the challenge that students may find it hard to interact with each other if relying too much on social media; 34 of the sample representing 28.3%, strongly disagreed with the same challenge. 65 out of 120 respondents representing 54.2%, agreed to the challenge that the internet issue is an issue; 55, representing 45.8%, also strongly agreed to the same challenge.

Table 4: Regression Analysis: Showing the influence of challenges and benefits of Social Media on the use of Social Media

Variables	Coef	SE Coef	T-Value	P-Value
Constant	358.5	54.6	6.57	0.0070
Challenges of social media	0.183	0.423	0.43	0.6950
Benefits of social media	-0.224	0.421	-0.53	0.0063

The result from Table 4.5 shows the influence of the challenges and benefits of social media on the use of social media. From the table P-value less than 0.05 infers a significant influence on the use of social media. It was observed from the table that there is a significant benefit of using social media with a p-value = 0.0063. In contrast, social media challenges have no significant influence with a p-value = 0.6950.

Conclusion

From table 1, it was observed that the respondents have an agreed decision, rankings of *Facebook or What-app page to broadcast updates* the best use of social media to disseminate academic information. Thus it was deduced that the social media platforms used by academic staff to deliver lectures to students are mostly Facebook or What-app pages to broadcast updates and to, stream live lectures and host discussions. Based on the benefits of using social media platforms in teaching and learning to the students and teachers of Federal University of Technology Minna. There is a unanimous decision that the benefits of using social media platforms in teaching and learning are: Learning new digital literacy skills, improving knowledge retention and understanding, increasing class participation and motivating students and building a community to connect students to each and the global community.

The challenges encountered by the academic staff and students in the e-teaching and learning process are misuse of tools during instructional time and antisocial behaviour. Students can be easily distracted, and posting inappropriate content may harm the school's reputation and Internet issues. Moreover, lastly, from the hypothesis test from table 4, it was observed that there is a significant benefit to using social media with a p-value = 0.0063. In contrast, challenges of social media have no significant influence on the use of social media with p-value = 0.6950.

Recommendations

1. The study recommends that the Federal University of Technology Minna improve the use of the most used social media platforms, such as Facebook and WhatsApp, to broadcast updates, stream live lectures, and host discussions.
2. The management of the Federal University of Technology Minna should utilise the benefit of social media platforms to cut across all disciplines.
3. The management of Federal University of Technology Minna should train and retrain both the staff and the students on the use of social media platforms and the tools involved.

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