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Utilization of YouTube and Twitter as source of information for research by medical students at Usmanu Danfodiyo University, Sokoto

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ABSTRACT

YouTube and Twitter have been used as a social media handles for a number of purposes; however, using same tools for research purposes among undergraduate medical students is the major reason for this study. The study investigated the utilization of YouTube and Twitter as sources of information among undergraduate's medical students in Usmanu Danfodiyo University, Sokoto (UDUS), Nigeria. Descriptive survey was used with the population of 65,469 medicals students drawn from three (3) faculties' namely, Health sciences, Medical sciences and Laboratory sciences. A sample size of 398 undergraduates was drawn using Slovene's formula. Questionnaire was used as a data collection instrument and distributed to 398 undergraduate medical students, out of which a total of 379 copies was returned and used for analysis. Data collected were analyzed with the use of Statistical Package for Social Sciences (SPSS). It was found that medical students in UDUS make use of YouTube and Twitter to a great extent and they use it majorly for academic purposes. Furthermore, information overload, epileptic power supply and Spam and false news media platforms were found to be the most prominent challenges faced by medical students in UDUS using YouTube and Twitter as sources of information for research. The recommendations proffered include: lecturers should ensure that they engage the students in tasks that can require them to visit and search for academic information on YouTube and Twitter among others.

Keywords: Medical research, Information sources, Information utilization, Twitter, YouTube

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Introduction

Social networking sites such as YouTube and Twitter sprung up in the early 2005 and 2006 respectively and have incredibly become sources of information for academic activities. To this end, Junco et al (2019) defines social network as a collection of internet websites services and practices that support collaboration, community building participation and sharing. Social media networking sites have facilitated information and communication delivery. However, the nature and nomenclature of these connections may vary from site to site (Bryer & Zavatarro, 2011). Kietzmann (2020) described social network as the means of employing mobile and web based technology to create highly interactive platforms in which individuals and community share, co-create, discuss and modifies user-generated content. Tezgular (2018) stated that it is a digital platform where the sharing of information is captured simultaneously by the user-friendliness brought by new-generation web technologies and communication.

YouTube can be defined as a video sharing website that allows users to watch, upload and comment on videos and was created as a video-sharing website where users could upload, share and view content. So far, the video platform had 2 billion logged-in monthly users and has 1.9 billion users worldwide (Statista, 2019). Schill (2017) described Twitter as a micro-blogging system that allows you to send and receive short posts called tweets. Tweets can be up to 140 characters long and can include links to relevant websites and resources. Users of this social network follow each other, and this allows one to see other user's tweets in one's timeline, and one can choose to follow people and organizations with

similar academic and personal interests to one's own. It is noteworthy that in the last fifteen years, social media became the most used way of communication. Reports have shown that Twitter averaged 330 million monthly active users (Statista, 2019) and more than 140 million people i.e., 40 percent use the service on a daily basis (Oberlo, 2019).

In Nigeria, universities and other higher institutions of learning have been hit by new generations of youth coming from high schools with quite a decent knowledge about information technology and how to use its tools, especially internet and the social media. It is expected that any technology can be put to good or bad use, depending on the user. These social media in question can be used as sources of information for research, academic and other purposes if the user wishes to. It is on this note that this study seeks to investigate the utilization of YouTube and Twitter as sources of information for research among medical students in Usmanu Danfodiyo University, Sokoto (UDUS).

Objectives of the Study

The main objectives of this study are to investigate the utilization of Twitter and YouTube handles as sources of information for research by UDUS undergraduates medical students. The main objectives of the study are to:

1. ascertain the level of YouTube and Twitter use among medical students in Usmanu Danfodiyo Universities, Sokoto;
2. determine the purpose of YouTube and Twitter use by medical students in Usmanu Danfodiyo Universities, Sokoto; and
3. identify the challenges of using YouTube and Twitter as source of information for research to medical students in Usmanu Danfodiyo Universities, Sokoto.

Literature Review

Social media has become one of the major channels of communication through platforms such as 2go, BB chat, Blogger, Facebook, WhatsApp, and Wikipedia. There has been an increase in the mobile social media which has created new opportunity for studies. Andreas and Michael (2010) are of the opinion that social media is a group of internet based application that builds on the ideological foundation and allows the creation and exchange of users generated content. According to Al-rahimi et al. (2018), social media has become an extremely important means of communication of the present age and connects people with similar interest of sharing activities. In terms of social media application in academics, Anyawu, Ossai-Onah and Iroeze (2013), assert that academic institutions all over the world are leveraging on social networks which have transformed the landscape of our tertiary educational institutions.

In a study that examined the perceptions of second year medical students in a human anatomy course supported by a YouTube channel, Jaffar (2012), found that majority of the students used YouTube as an online information resource and had visited the course YouTube channel frequently as well; the channel helped them in learning anatomy. YouTube can be considered as an effective tool to enhance instruction and support independent learning in a problem-based learning (PBL) classroom if the videos are scrutinized, diversified, and aimed toward course objectives.

It is important to understand how YouTube is being used as a powerful educational and motivational tool that is being used in today's 21st classroom (Kietzmann, Silvestre, McCarthy & Pitt, 2016). The power YouTube has as an educational tool depends on how it is integrated into classroom learning. Various organizations such as businesses, television broadcasters, universities, political parties and non-governmental organizations have set up YouTube channels in order to deliver their message to a wider audience (Clifton & Mann, 2011). Kim (2020), argued that YouTube has shifted from having mainly user-generated content to professionally generated content as well. The service allows unregistered users to watch videos and post comments and allows registered users to upload movie clips, television clips, music videos, original short videos, documentaries, animated shorts, slideshows, as well as video captured via mobile devices.

The educational uses of YouTube have great importance. According to Ebied et al. 2016),

YouTube allows active, constructive, and interactive learning opportunities. Learning through YouTube videos achieve better learning outcomes of computer skills due to YouTube making videos available anytime and anywhere, with high quality, and the possibility of video repeat or stop and complete later, as it contributes in developing visual education skills, read images, graphs faster and easier without conceptual errors. Cruse (2018) argues that the incorporation of YouTube videos embedded in PowerPoint presentations in organic and biochemistry has the potential to foster post-lesson student interaction and engagement with ideas and concepts related to these two courses. YouTube also encourages teamwork activities through videos sharing among the students group, which bring fun learning and makes learning meaningful with more period of retention.

In addition, YouTube can also be used as a container for e-portfolio for the student and teacher alike, where the teacher can keep students works and provide an opportunity to evaluate student with high level of transparency. McMullen (2019) confirmed the role of YouTube in supporting and developing the curriculum, making learning experiences meaningful, and helping to facilitate learning according to educational strategies supported by the use of digital video clips.

Similarly, Kietzmann et al, (2020), discussed how YouTube was used in different ways across different levels of education. At the undergraduate level, videos showing the image of nursing were easily found on YouTube. These videos were previously difficult and sometimes not possible to attain. At the postgraduate level, video clips were used in a theoretical foundation class. Furthermore, students were able to view highlights from conferences on various nursing-related topics.Exposure to that level of content would have been difficult without the use of the video clips. It was confirmed by Agazio and Buckley (2019), that the use of YouTube can offer flexibility and depth to both undergraduate and postgraduate programs. Corroborating this, Roodt and De-Villiers (2011) conducted a study into the use of YouTube as a tool to support collaborative learning on a first year course at the University of Pretoria. The course included a group project in which students used YouTube to create a video on how businesses can use Web 2.0 technologies among other tasks. Result shown that YouTube had an impact on the students in addition, YouTube was perceived as an innovative learning technology by majority of students.

Many academic institutions use YouTube and Twitter to record and disseminate course modules for classes with the videos available via the e-learning systems and the Internet. For instance, Jafar (2012), reports that 98% of students used YouTube videos as an online information resource with 86% of students confident that the platform helped their learning of anatomy. Duncan, Yarwood-Ross and Haigh (2018) explain the importance of video sharing sites and argue that YouTube videos are valuable to practical, medical and clinical science education, and research. The authors report that the videos on YouTube may be used in ways to stimulate student participation to counteract the students' lack of interest often reported in traditional learning. Whereas many authors and the media are over-enthusiastic about the possibilities of new digital media in primary, intermediate, higher education and life-long learning, other researchers hint at caution by highlighting the negative impact of YouTube videos and digital media on learning.

In the same vein, Twitter has become increasingly popular with academics as students, policy makers and the general public are not left behind. Hasnain, Nasreen and Ijaz (2017), opined that the snappy nature of Twitter allows many smartphone users who don't want to read long content items on screen. Some of the benefits of Twitter in an academic environment could include; easy promotion of your research, blog stories, journal articles etc.; reach a large number of people quickly through tweets and retweets; follow the work of experts in your field; build relationship with experts and other followers; keep up to date with the latest news and developments and share it with others instantly; follow and contribute to discussions on events like conferences that you can't attend in person.

Notwithstanding many benefits, YouTube and Twitter media as educational resource do have some challenges. Clifton and Mann (2011), cited unregulated content which can be misleading, inaccurate, or even biased. Buzzetto-More (2016), identify issues such as excess information not relevant to the course or topic of study as well as gaps in the related information which may lead to incomplete or inaccurate understanding.

Methods

The study employed descriptive survey design. The populations of 65,469 students were drawn from the faculty of health and medical sciences, and a sample size of 398 undergraduates was drawn using Slovene's formula. The scale had four options: Strongly Agree, Agree, Disagree, and Strongly Disagree, weighted 4, 3, 2, and 1, respectively. PPMCC was used to calculate the individual scores in order to establish the instrument reliability, and reliability index of 0.595 was obtained. Furthermore, reliability index for the entire test (step-up) was calculated using the Spearman-Brown Prophecy Formula, and it was found to be 0.75. Questionnaire was used as a data collection instrument and was distributed to 398 undergraduate's medical students, out of which a total of 379 copies were returned and used for analysis. Data collected were analyzed with the use of Statistical Package for Social Sciences (SPSS).

Results

Data represented on Table 1 shows the demographics information of the respondents. A total of 267 (70.4%) respondents are from the faculty of health sciences, 87 (23%) are from faculties of medical sciences while 25 (6.6%) were from faculties of medical laboratory sciences. In terms of academic Level, 126 (33.2%) were in 200 level, 83 (21.9%) were in 300 level, 96 (25.3%) were in 400 level and 74 (19.5%) were in 500 level. Gender wise, 154 (40.6%) were male while 225 (59.4%) were female of which more than half, 218 (57.5%) of them were between 15-20 age range, followed by 122 (32.2%) of whom were between age 21-25. Furthermore, 31 (8.2%) of them were between the age of 26-30 while 8 (2.1%) were slightly above 30 years of age.

Table 1: Demographics Characteristics of the Respondents

Demographic Variables		Freq.	%
Faculties	Health Science	267	70.4
	Medical Science	87	23.0
	Medical Lab. Science	25	6.6
Gender	Male	154	40.6
	Female	225	59.4
Academic level	200	126	33.2
	300	83	21.9
	400	96	25.3
	500	74	19.5
Age bracket (years)	15-20	218	57.5
	21-25	122	32.2
	26-30	31	8.2
	>30	8	2.1
	Total	379	100

Level of Twitter Use by Undergraduates

Table 2 shows the respondents' level of use of Twitter. 24 (6.3%) have not used it at all, 56 (15.8%) have used it to a little extent, 38 (10%) have used it to a moderate extent, 130 (34.3%) have used it to a great extent and 131 (34.6%) have used it to a very great extent.

Table 2: Level of Twitter Use by UDUS Medical Students

	Frequency	Percent
Not at all	24	6.3
To a little extent	56	14.8
To a moderate extent	38	10.0
To a great extent	130	34.3
To a very great extent	131	34.6
Total	379	100.0

Level of YouTube use by undergraduates

Table 3 shows the level of use of the respondents' use of YouTube, 21 (5.5%) have not used it at all, 23 (6.1%) have used it to a little extent, 18 (4.7%) have used it to a moderate extent, 233 (58.8%) have used it to a great extent, 94 (24.8%) have used I to a very great extent.

Table 3: Level of YouTube Use by UDUS Medical Students

Level of YouTube use by undergraduates	Frequency	Percent
Not at all	21	5.5
To a little extent	23	6.1
To a moderate extent	18	4.7
To a great extent	223	58.8
To a very great extent	94	24.8
Total	379	100.0

Purpose of Twitter and YouTube use

The various purposes for which undergraduates use YouTube and Twitter are presented in table 4. Many of them (2.95) use it to compliment class work, majority of them (2.98) use it to complete assignments, and also most of them (2.76) enroll for online courses on YouTube to enhance their understanding of their course of study. Furthermore, majority of them (2.96) use it to get factual information that aids research, some of them (2.97) use it to for fun and relaxation, almost all of them (3.16) use it to connect with colleagues and lastly, some of them (2.57) use it to express their view about life.

Table 4: Purpose of Twitter and YouTube Use by UDUS Medical Students

Purpose of Twitter and YouTube use	SD Freq. (%)	D Freq. (%)	A Freq. (%)	SA Freq. (%)	Mean
To compliment class work	67 (17.7)	29 (7.7)	140 (36.9)	143 (37.7)	2.95
To complete assignments	35 (9.2)	37 (9.8)	208 (54.9)	99 (26.1)	2.98
I watch online courses on YouTube to enhance my understanding of my course of study	36 (9.5)	66 (17.4)	229 (60.4)	48 (12.7)	2.76
Social media provides me with factual information that aid my research	36 (9.5)	17 (4.5)	252 (66.5)	74 (19.5)	2.96
For fun and relaxation	21 (5.5)	23 (6.1)	281 (74.1)	54 (14.2)	2.97
To connect with colleagues	11 (2.9)	14 (3.7)	256 (67.5)	98 (25.9)	3.16
To express my view about life	106 (28.0)	34 (9.0)	156 (41.2)	83 (21.9)	2.57

SA= Strongly Agree A=Agree D= Disagree SD= Strongly Disagree

Challenges of Twitter and YouTube

Table 5 shows the challenges of using Twitter and YouTube as source of information by undergraduates in UDUS. Challenges faced by these undergraduates include: Poor internet facility (2.57); Information overload (3.34); Network server failure (2.97); Prevalence of unregulated contents on social media platforms (3.21); Epileptic power supply (2.80); unreliability of online information (2.08) and lastly Spams and false news (2.04).

Discussion of Findings

Research Objective 1: Ascertain the Level of YouTube and Twitter Use by UDUS Medical Students

The results gathered on the level of use of Twitter by undergraduate shows that undergraduates make use of YouTube to a great extent. This is because many of them agreed to the item that indicated so. Even though some of them indicated that they have not used YouTube at all and others have only used it to a little extent. Those who use it to a great extent are more among the respondents. This further buttresses the findings of Jaffar (2012), in which 98% of the students used YouTube as an online information resource to a great extent albeit in different frequencies.

The result gathered on the level of use of Twitter by undergraduate shows that undergraduates make use of Twitter to a great extent. Even though some of them indicated that they have not use Twitter at all and other has only used it to a little extent. Those who use it to a great extent are more among the respondents. This buttresses the findings of Noel-

Levitz (2012) who conducted a study of mobile social media use, surveying nearly 2,300 college-bound high school students finding that 84% of college bound high school seniors use Facebook, 78% use YouTube, and 25% use Twitter.

Table 5: Challenges of use of Twitter and YouTube as source of Information by UDUS Medical Students

Challenges of Twitter and YouTube	SD	D	A	SA	Mean
Poor internet facility	106	34	156	83	2.57
	(28.0%)	(9.0%)	(41.2%)	(21.9%)	
Information Overload	23	35	112	209	3.34
	(6.1%)	(9.2%)	(29.6%)	(55.1%)	
Network server failure	86	38	58	197	2.97
	(22.7%)	10.0%)	(15.3%)	(52 .0%)	
Prevalence of unregulated contents on social	47	60	39	233	3.21
media platforms	(12.4%)	(15.8%)	(10.3%)	(61.5%)	
Epileptic power supply	96	63	41	179	2.80
	(25.3%)	(16.6%)	(10.8%)	(47.2%)	
Unreliability of online information	142	93	116	28	2.08
	(37.5%)	(24.5%)	(30.6%)	(7.4%)	
Spams and False News	99	188	71	21	2.04
	(26.1%)	49.6%)	(18.7%)	(5.5%)	
Unregulated content	247	63	48	21	1.59
	(65.2%)	(16.6%)	(12.7%)	(5.5%)	

SA= Strongly Agree A=Agree D= Disagree SD= Strongly Disagree

Research Objective 2: Purpose of Twitter and YouTube Use among UDUS Medical Students

Findings of this study show that undergraduates in UDUS make use of social media for several purposes of which academic purpose is more prominent. This is because mean value for responses of those who use it to compliment class work and complete assignment was a bit high. This corroborates the findings of Udende and Azeez (2010), who reported that most students of the university admitted that they mostly use the internet for academic purposes.

Other purposes of using YouTube and Twitter as indicated by the respondents include; Taking online classes (Greenberg & Zanetis, 2012), to do research, for fun and relaxation and to express life views. Also these findings corroborate that of Petter, Brandtzæg and Heim, (2019) that investigated the purpose of use of social networking sites from respondents age 16-29 and that of Kietzmann, Silvestre, McCarthy & Pitt, (2016), who discussed how YouTube was used in different ways across different levels of education from undergraduate to post graduate level. Lastly, it was found that many of the respondents used Twitter and YouTube to connect with colleagues. That affirms the assertion of Axelso and Flick (2011), that social media sites are used by most people to interact with old and new friends, physical or internet friends.

Research Objective 3: Challenges of Use of Twitter and YouTube as Source of Information for Research by UDUS Medical Students

Medical undergraduate students in UDUS are faced with diverse challenges in attempt to meet their information needs using Twitter and YouTube. The challenges faced by the students include; poor internet facility, information overload, network server failure, prevalence of unregulated contents

on social media platforms. This corroborates the findings of Muhammad and Tahiru (2017).

Other challenges impeding the effectiveness of social media use on information seeking behavior of undergraduates include: epileptic power supply, unreliability of online information and prevalence of spams and false news. Their finding is similar to that of (Wang et al, 2011; Shehu, Urhefe & Promise, 2015). Wang et al., (2011), found that the major challenge faced by the students while using the social media on the internet was power outage with (72%) of participants, undergraduates especially of UDUS expressed their displeasure over the instability of power supply on campus for the past few months. Many of them also complained that their colleagues are fond of spreading spams messages and false news especially on their Class WhatsApp page.

Lastly, undergraduates across the three faculties lamented over the lacuna they encounter when trying to retrieve information from YouTube. It was noted that at times they come across so much information that they find it difficult to recognize the correct ones. These buttress the findings of Clifton & Mann (2011) that unregulated content which can be misleading, inaccurate, or even biased is a challenge of using YouTube as a source of information. Similarly, Buzzetto-More (2016), identify issues such as excess information not relevant to the course or topic of study as well as gaps in the related information which may lead to incomplete or inaccurate understanding.

Conclusion

Undergraduates require information for many purposes; however, ability to identify the right sources to get the right information is very important especially in the 21st century as social media has become a prominent major source of information for research. In this study it was found that medical students in UDUS make use of several social media platforms to source for information for their researches. It was specifically found that almost all the medical students in those faculties have YouTube and Twitter handle and they make use of them to a great extent. Although some challenges were identified and the study conclude that the utilization of YouTube and Twitter as source of information for research among medical students in UDUS is encouraging but can still be better if the challenges identified could be addressed.

Recommendations

Based on the findings from the study, the following recommendations are made:

i. Medical students in UDUS should improve on their information literacy ability to be able to solve the problem of information overload and the unregulated nature of social media content.
ii. Lecturers should ensure that they engage the students in tasks that requires them to visit and search for information on YouTube and Twitter.
iii. Management of UDUS should work on providing a more stable power supply or alternative source of power.

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