

**AWARENESS AND USAGE OF WEB 2.0 TOOLS AMONG LECTURERS IN
NIGERIAN UNIVERSITIES: IMPLICATIONS FOR TEACHING AND
LEARNING IN SCHOOLS**

Bibitayo AJISE

The Library

National Institute for Educational Planning and Administration

Ondo, Ondo State, Nigeria

And

Olaronke O. FAGBOLA

The Library

National Open University of Nigeria

Abstract

Web 2.0 tools are bringing a new revolution to the processes of teaching and learning in universities of the 21st century, hence its level of awareness and usage among the lecturers who teach in these universities are very critical to a revolutionized teaching and learning. This study conducted an investigation into the level of awareness and usage of Web 2.0 tools among lecturers in Nigerian universities. One hundred and forty four copies of questionnaire were administered on lecturers randomly selected from five federal government owned universities in the south west, Nigeria viz: University of Ibadan, Ibadan; University of Lagos, Lagos; Obafemi Awolowo University, Ile Ife; Federal University of Technology, Akure; and Federal University of Agriculture, Abeokuta. However, the data analysis was based on the 121 copies of the administered questionnaire returned with useful responses. Findings from the study revealed a high level of awareness and use of Web 2.0 tools among the lecturers in Nigerian universities while facebook, youtube, linkedln, twitter, wikis, and podcasting were found to be the popular tools among the lecturers. Also, facebook, linkedln, and wikis were found to be the most used Web 2.0 tools among the Lecturers while specific purposes of the tools among the lecturers were found to be in the areas of engaging the students in conversation, relating, communicating, and collaborating with colleagues, and sharing of educational materials for the purposes of teaching and learning. However, a significant difference was found to exist between the level of awareness of Web 2.0 ools. The study recommended the provision of infrastructural support for Web 2.0 tools' use by management of universities in Nigeria while lecturers while also suggesting the need for lecturers to leverage on the opportunities provided by Web Web 2.0 tools in ensuring engaging and interesting teaching and learning in universities in Nigeria

Keywords: Awareness, Usage, Web 2.0, Lecturers, Nigerian universities, Teaching and Learning

Introduction

The advent of Web 2.0 tools has brought about a revolution to the education space such that teaching, learning, and research are done differently from the way it is being done. Web 2.0 can be regarded as one of the best things that have happened to the education space in the 21st century. Web 2.0 also referred to as read/write web has emerged with the potential to change the teaching and learning paradigm especially in tertiary education and has also come with facilities that enable both teachers and students to access and create collective knowledge through social interactions (Maloney, 2007), as oppose to accessing the web only for course information that was available before. It (Web 2.0) refers to the social use of the Web which allows people to collaborate, to get actively involved in creating content to generate knowledge and to share information online (Grosbeck, 2009).

The history of Web 2.0 could be traced to Darcy Dethueel in 1999. According to her,

“the first glimmerings of Web 2.0 are beginning to appear as we are just starting to see how that embryo might develop. The Web will be understood not as a transport mechanism, the ether through which interactivity happens” (Kumar, 2010, p132).

However, the term was popularised by O’Reilly Media and MediaLive at the first Web 2.0 Conference in 2004. O’Reilly outlined the definition of the “Web as Platform” where software applications are built upon the Web as opposed to upon the desktop. Web 2.0 is described as the business revolution in the computer industry caused by the move to the Internet as Platform, and attempt to understand the rules for success on that platform.

Web 2.0 is commonly associated with web development and web design that facilitates interactive information sharing, interoperability, user-centered design and collaboration on the World Wide Web (Kumar, 2010). Web 2.0 refers to a perceived second generation of web-based communities and hosted services (Shank, 2008) which allows its users to interact with other users or to change website content in contrast to non-interactive websites where users are limited to the passive viewing of information that is provided to them (Best in Kumar, 2010). The learners of today have been found to be highly skilled in the use of ICT and related technologies hence teacher must design innovative strategies to engage and motivate the learners. Researches have shown that creative classroom techniques that incorporate technology promote a more productive and enriched learning environment (Rosenfield in Burke, Snyder and Roger, 2009), hence the Web 2.0 technologies could be an important facility to both in-class and online instructors for establishing a sense of classroom community and achieving better learner outcomes.

Web 2.0 technologies include wikis, blogs, instant messaging, internet telephony (e.g skype), social bookmarking, social networking sites (e.g facebook, twitter, flickr, youtube etc), among others. These technologies make sharing content among users and participants much easier than in the past and change the way documents are created, used, shared and distributed (Dearstyne, 2007). The blooming of online social networks to

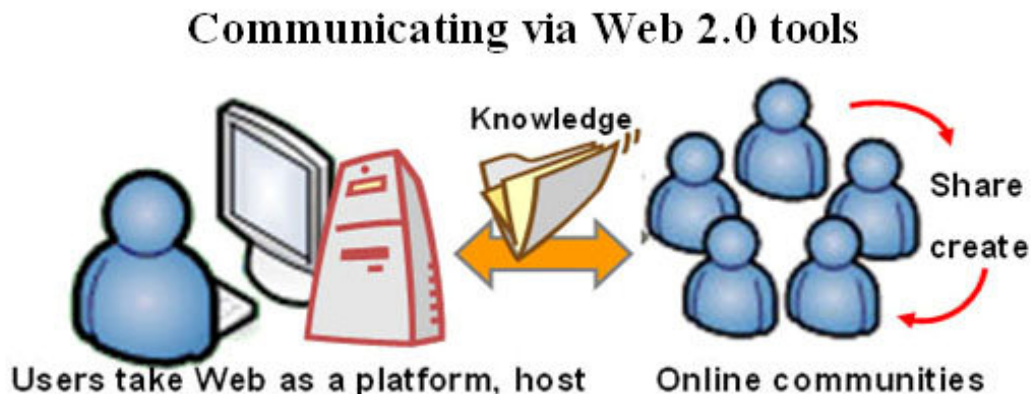
exchange personal information, photos, videos (facebook, flickr, Youtube) and the increased need for tools to quickly create, analyse, and exchange the ever increasing amount of information, along with the ease of use of Web 2.0 collaboration software have fueled a surge in the emergency of Web 2.0 technologies (Dearstyne, in Ajjan and Hartshorne, 2008).

The proliferation and over bearing influence of Web 2.0 technologies on this 21st century generation has pushed many institutions and their staff to begin to adopt the use of Web 2.0 technologies. Many teachers and staff in universities and colleges in their workplaces throughout the world (most especially in developed countries) have begun to incorporate web 2.0 technologies into their teaching and learning environment (Tyagi and Kumar, 2011). The case may not be different for Nigerian universities where the acceptance of Web 2.0 is on the increase. The students are considered to belong to the “Net Generation” or what Prensky (2001) called the “Digital Natives”. According to Prensky (2001) the students of today are native speakers of the digital language of computers, video games, and Internet. Li and Ranieri (2010) corroborated Prensky (2001) by describing the students as skillful in using digital tools and proficient in multi-tasking and experimental learning. This calls for the need for teachers to aspire to possess the necessary digital skills to be able to meet up with these students. It is also expected that the Lecturers in Nigerian universities would have begun the adoption of Web 2.0 in teaching, just as they have been using for personal purposes, to be able to meaningfully engaged the ‘Net Generation’ students.

With the extensive increase in popularity of Web 2.0 sites in recent years, educational institutions are now presented with students who are already well versed in the use of social networking applications of blogging, Wiki articles, video, podcasts etc. (Tyagi and Kumar, 2011). Therefore, Lecturers in Nigerian universities must adopt web 2.0 technologies to support innovative teaching just as researches have shown that learners of today are bored with the use of traditional method of teaching and learning but preferred methods that challenge them to innovation and knowledge construction through the use of technologies (Adam and Mowers, 2007; Jones, 2008). This study, therefore, intends to investigate the use of web 2.0 technologies in teaching and learning by lecturers in Nigerian universities. This type of study is necessary to be able to know the extent of use of these technologies in teaching and learning in our tertiary institutions and provide insight to the acceptance and adoption of these tools by the Lecturers. Also, the study is to provide insight into how Web 2.0 tools are being used among the Lecturers as well as information on which of these tools are being used by the Lecturers. The findings of the study would enable the management of the Universities to be able to take far reaching policy decisions on the use of the Web 2.0 in teaching and learning. This study is designed to answer the following questions:

- i. What is the extent of awareness of Web 2.0 tools among the Lecturers in Nigerian universities?
- ii. What is the extent of use of Web 2.0 tools by the Lectures in Nigerian universities?
- iii. For what purpose(s) do the Lecturers make use of the Web 2.0 tools in teaching and learning?

Fig. 1 below presents a diagrammatic representation of Web 2.0 communication model



Objectives of the Study

The broad objective of the study is to investigate the extent of awareness and utilization of Web 2.0 tools among Lecturers in Nigerian universities. The specific objectives of the study include:

1. finding out the extent of awareness of Web 2.0 tools among Lecturers in Nigerian universities
2. establishing the pattern of use of Web 2.0 tools among Lecturers in Nigerian universities

Research Hypotheses

The following hypotheses were tested in this study:

H₀₁: There is no significant difference in the awareness of Web 2.0 tools between Senior and Junior Academic staff of University

H₀₂: There is no significant difference in the pattern of use of Web 2.0 tools between Senior and Junior Academic staff of University

Scope of the Study

This study deals with the usage analysis of Web 2.0 technologies by Lecturers with the scope limited to the Lecturers in selected universities in South West, Nigeria. The Federal university in each of the state was selected except in Ekiti State, where the university is still very young and educational activities are yet to commence fully at as the time of gathering the data for this study. Thus, the Universities selected for this study are University of Ibadan, (UI) Ibadan, Oyo State; Obafemi Awolowo University (OAU), Ife Osun State; Federal University of Agriculture, Abeokuta (FUNAAB); Ogun State, Federal University of Technology, (FUTA), Akure; and University of Lagos (UNILAG), Lagos. The universities were considered for the study based on the availability of functional ICT facilities and other infrastructural facilities to support application of Web 2.0 tools.

Research Problems

The adoption of Web 2.0 tools in universities may come with its attendant challenges, risks and fears. However, an effective strategy that is required to deal with the implementation problems may include learning from others experiences, as well as an open access to content and reliance on open platforms for knowledge sharing and creation Freire, (2007). This study aimed at investigating the suitability of Web 2.0 tools in the education environment. The Federal universities in the south west states of Nigeria have invested so much in ICT facilities and have begin to incorporate these facilities into teaching, learning and research activities but the extent to which Web 2.0 tools are being adopted and adapted for use by these Lecturers require to be investigated. Generally, there had been pocket of studies on the use of specific social media such as facebook, blogs, twitter and Youtube by teachers, students, librarians and other categories of users especially in Nigeria but none of these studies had taken a holistic look at other Web 2.0 tools that are equally relevant and very useful in the teaching and learning environment. Therefore, this study intends to critically investigate the Web 2.0 tools commonly available for use in the selected universities and the extent to which the Lecturers are aware of these tools and make use of them. The scope of Web 2.0 tools to be considered for this study arising from a preliminary survey include, Wikis, Blogs, RSS, Social bookmarking, Podcasting/Vodcasting, Netlog, Flickr, Youtube, LinkedIn, Facebook, and Twitter.

Literature Review

Observations have revealed that the advent of Web 2.0 tools is giving education, especially teaching, learning, and research a new face. The interactive nature of the tools has made it more relevant and useful in the teaching and learning process. Web technologies are changing the old patterns of learning and enabling new ones in three ways viz: the provision of opportunities to people to learn about new topic by increasingly looking online for information, articles, webcasts, book reviews, and courses; growth in informal approaches to learning, in addition to formal approaches to learning, such as courses and tutorials; while also providing people opportunity to share content online, thereby assuming not only the role of learners but also that of instructor (Shank, 2008).

Web 2.0 platforms are seen to have an emerging role to transform teaching and learning (Alexander and Levine, 2008). Grosseck (2009) highlighted specific technologies and services contributing in higher education to include blogs, microblogs, wikis, syndication of content through RSS, tag-based folksonomies, social bookmarking, media-sharing, social networking sites and other social software artifacts. According to Tyagi and Kumar (2011) these Web 2.0 tools could facilitate a change of paradigm in teaching and learning; from a top-down system focused in teachers and established knowledge to a networked approach where facilities should change their roles to become coaches and facilitators of the learning process. Learning by doing and applying methods for collaborative and active learning are essential approaches and the Web 2.0 could be as instrumental and strategic tool in their development (Freire, 2007). The use of effective and engaging teaching strategies by lecturers has been considered as very key in addressing the learning styles and attention span of the new faster-paced, web-connected

learners of today, sometimes referred to as the Web 2.0 generation (Burke, Snyder, and Roger, 2009). The changing nature of learning and learners has to a great extent influence the methods of teaching and instructional delivery (The Pew internet and American Life Project in Shank, 2008). The relevance of web 2.0 tools in higher education stems from the fact that teachers can use Web 2.0 tools to foster collaborative work not only among their own students, but with colleagues, students, and community members from around the world (Grosbeck, 2009). Hence, university educators/teachers need to act to ensure that it makes these emerging tools to boost our teaching and learning activity.

In recent years, the use of web 2.0 technologies has become increasingly popular and their use in education is expanding rapidly. This is because Web 2.0 technologies have allowed information to be shared freely on the internet bringing together teachers and students from across the world in a virtual environment (Uzunboylu, Bicen and Cavus, 2011). Educators have also found a variety of creative applications, based on a constructivist foundation for the wiki format, including quick and informative website publishing, collaborative website posting, student assignments with peer review capabilities, problem solving, focused discussions, inter disciplinary projects, community building amongst students, collaboration practice and more (Synteta in Uzunboylu, Bicen and Cavus, 2011).

There has been considerable exploration of the potential of Web 2.0 tools in education where social applications that facilitate student-centered collaborative learning are increasingly challenging teacher-centred pedagogies (Barnes and Tynan, 2007). For example, Podcasting may be used for archiving and distributing lectures in video or audio format, whilst video and slide-sharing websites (www.slideshare.net) can be used to publish lectures and conference presentations (Uzunboylu, et. al. 2011).

Furthermore, researches have established that Web 2.0 tools can contribute to a type of lifelong learning well suited to the characteristic of older students and the needs of society (Shank, 2008; Grosbeck, 2009), just as they allow students to participate in activities they enjoy and learning may then come as a by-product of participation. Simoes and Gouveia (2008) reiterated the relevance of Web 2.0 in facilitating social nature of learning and discursive learning. With Web 2.0 the Lecturer is able to set up a discussion that would allow members of a group present their ideas to others and receive feedback through the provision of the cognitive scaffolding necessary for higher level thinking (Vygotsky in Simeons and Grovela, 2008). This type of activity is inherent to Web 2.0, allowing expectation of major potential impacts in higher education if these technologies are integrated in teaching practices at this level.

Educators are now turning to Web 2.0 tools, drawing upon their ability to assist in creating, collaborating on sharing content (Munoz and Tower, 2009). Web 2.0 tools such as facebook provides educators opportunities and structures by which students can help and support one another by building the course atop the community already established by the students themselves (Munoz and Tower, 2009), such that teacher-student, student-student, and possibly student-content interaction in the form of web-based communication are increased while at the same time helping instructors to connect with

their students about assignments, upcoming events, useful links, and samples of work outside of the classroom.

The various studies on the use of web 2.0 tools for teaching and learning (Munoz and Towner, 2009; Ivala and Gachago, 2010) concluded on the usefulness of social media in students engagement. Web 2.0 tools are considered in the studies as having great promise for teaching and learning because they are strictly web-based and typically free; support collaboration and interaction; enhance students learning experiences through authorization, personalization; provide rich opportunities for networking, responsive to the user, and have great potential for use in a way that is learner-centred (McGee and Diaz in Ivala and Gachago, 2010).

The popularity of Web 2.0, along with the increasing use of blogs, wikis, and social networking technologies, has led many in the academia to coin a flurry of 2.0s, including e-Learning 2.0, Education 2.0, and Library 2.0. Many of these 2.0s refer to Web 2.0 technologies as the source of the new version in their respective disciplines and areas. However, Keen in Kumar (2010) argued that Web 2.0 has created a cult of digital narcissism and amateurism, which undermines the notion of expertise by allowing anybody, anywhere to share (and place value upon) their own opinions about any subject and post any kind of content regardless of their particular talents, knowledgeability, credentials, biases or possible hidden agendas.

Ivala and Gachago (2010) in their study on the use of facebook and blogs for teaching and learning in universities in South Africa reiterated that lecturers utilised facebook groups and class blogs as a supplementary teaching and learning resource to face-to-face teaching. The purposes for the use of these web 2.0 tools by the lecturers range from the need to motivate students to read, initiate dialogue and develop students' writing skills by posting a collaborative story, written by staff and students in monthly installments (Ivala and Gachago, 2010). On the other hand, the lecturers have been using blog as a course management tool i.e to post course news, announcement, briefs, study guides and the course content (Ivala and Gachago, 2010). These emphasise the need for university teachers to engage with the use of web 2.0 tools and gain a deeper understanding of their potential for enabling learning, choice creativity and self-direction for learners.

Maloney (2007) reiterated that the use of technology to support in-class learning has changed over the decades as most faculties today utilise technology in their instruction as mechanisms for course content delivery, grade delivery and basic communication. Tyagi and Kumar (2011) corroborated this assertion by reiterating that the use of Web 2.0 technologies has significant potential to support and enhance in-class teaching and learning in higher education while also emphasising that the integration of Web 2.0 technologies such as blogs and wikis into the classroom learning environment can be effective at increasing students satisfaction with the course, improve their learning and their writing ability, and increase student interaction with other students and faculty. This would eventually lead to a change in the role of the student from passive to active learners, allowing them to better create and retain knowledge (Maloney, 2007).

Although there may be a general consensus on the positive aspects of Web 2.0 in teaching, Grosseek, (2009) still feels there is still ignorance on the part of some educators as far as the adoption and use of Web 2.0 are concerned. Such ignorance materialises in issues such as technological immaturity; intellectual and academic dogmatism, and the erosion of creativity to mention a few.

Research Methodology

Data Analysis and Discussion

A total of 144 copies of questionnaires were administered on respondents chosen from the five federal universities selected for the study viz: University of Ibadan, (UI) Ibadan, Oyo State; Obafemi Awolowo University (OAU), Ife Osun State; Federal University of Agriculture, Abeokuta (FUNAAB); Ogun State, Federal University of Technology, (FUTA), Akure; and University of Lagos (UNILAG), Lagos while only 121 were returned with useful responses. The response rates from universities surveyed are presented in table 1. The descriptive method of analysis such as Frequency, Percentages, Means and Standard Deviation and inferential statistics such as t-test were used for the analysis. The hypotheses were tested at 0.05 significant level.

Table 1: Response Rates from Selected Universities

University	Number of Questionnaire administered	Number of questionnaire returned with useful responses
University of Ibadan (U.I)	30	28
Obafemi Awolowo University (OAU)	32	25
Federal University of Agriculture Abeokuta (FUNNAB)	27	23
University of Lagos (UNILAG)	36	31
Federal University of Technology (AKURE)	19	14
Total	144	121

Table 2: Demographic information of respondents

Variables		Frequency	Percentage (%)
Designation	Junior Academic	56	46.3
	Senior Academic	65	53.7
	Total	121	100.0
Sex	Male	77	63.6
	Female	44	36.4
	Total	121	100.0

Table 2 presents information on the designation of the University lecturers surveyed and it revealed that there are more senior academic staff (65 or 53.7%) than junior academic staff 56(46.3%) among the respondents. Also, information on the sex distribution of

respondents revealed that there are more male university lecturers (77 or 63.6%) than female lecturer among the selected respondents.

Research Question 1: What is the extent of awareness of Web 2.0 tools among the University Lecturers in Nigeria?

Table 3: Respondents’ opinion on level of awareness of Web 2.0 tools

SN	Variables	Aware	Not Aware	Mean	SD
1	Blogs	76	45	0.63	0.485
2	Wikis	80	41	0.66	0.475
3	RSS feed	56	65	0.46	0.501
5	Social bookmarking	52	69	0.43	0.497
6	Podcasting	60	61	0.50	0.502
7	Netlog	45	76	0.37	0.485
8	Flickr	40	81	0.33	0.472
9	Youtube	104	17	0.86	0.349
10	LinkedIn	97	24	0.80	0.400
11	Facebook	116	5	0.96	0.200
12	Twitter	100	21	0.83	0.380
13	Others	0	121	0.00	0.00
	Average weighted means			0.569	

X=Means Scores=0.569

Table 3 presents information on the extent of awareness of Web 2.0 tools among the university lecturers in the selected universities and it revealed that there is high level of awareness of Facebook (Mean = 0.96), Youtube (Mean = 0.86), Twitter (Mean = 0.83), LinkedIn (Mean = 0.80), Wikis (Mean = 0.66), Blogs (Mean = 0.63), and podcasting (Mean = 0.50) among the university lecturers in the selected universities. Overall, the table further revealed that the estimated mean of level of awareness of Web 2.0 tools among the university lecturers was 0.57 which is greater than the expected mean of 0.33. This implies that the level of awareness of Web 2.0 tools among the university lecturers was ranked high. This finding corroborates Munoz and Tower (2009) view that educators are now turning to Web 2.0 tools, drawing upon their ability to assist in creating, collaborating on sharing content.

Research Question 2: What is the frequency of use of Web 2.0 among the University Lecturers in Nigeria?

Table 4: Respondents' opinion on the frequency of use of Web 2.0 tools

SN	Web 2.0 Tool	Regular Use	Occasional Use	Not Used	Mean	SD
1	Blogs	16	60	45	0.13	0.340
2	Wikis	72	8	41	0.60	0.493
3	RSS feed	56	0	65	0.46	0.501
5	Social bookmaking	44	8	69	0.36	0.483
6	Podcasting	8	52	61	0.07	0.250
7	Netlog	24	21	76	0.20	0.400
8	Flickr	0	40	81	0.00	0.00
9	Youtube	32	72	17	0.26	0.443
10	Linkedin	77	20	24	0.64	0.483
11	Facebook	104	12	5	0.86	0.349
12	Twitter	20	80	21	0.17	0.373
	Other	0		121	0.00	0.00
	Average weighted means				0.340	

X=Means Scores=0.340

Table 4 shows the analysis of means and standard deviation of the extent of use of Web 2.0 tools among the University lecturers in the selected institutions in Nigeria. It revealed that Facebook (Mean = 0.86), LinkedIn (Mean = 0.64), and Wikis (Mean = 0.60) topped the list of the Web 2.0 tools being used on a regular basis among the University lecturers as affirmed by the respondents. This implies that Facebook, LinkedIn, and Wikis are affirmed as the most commonly used Web 2.0 tools by the University lecturers in Nigeria. On the other hand the weighted average estimated mean of the extent of use web 2.0 among the selected respondents was **0.340** which is greater than **0.20** expected mean. Thus, it can be concluded that there is a high level of use of Web 2.0 tools among the University lecturers in Nigerian universities irrespective of the frequency of use.

Research Question 3: For what purpose(s) do the University Lecturers in Nigeria use Web 2.0 tools?

Table 5: Respondents' opinion on the purposes for which they use Web 2.0 tools

Variables		Mean	S.D
Blogs	For discussion on class assignment	0.20	0.400
	Posting reflections on class or online conversations	0.40	0.212
	Sharing of Journal articles with students	0.10	0.411
	Sharing of related course resources		
	Commenting on important posts made by students	0.45	0.223
RSS feed	For tracking new developments in my discipline and related areas	0.23	0.54
Wikis	Collaborating with students in writing	0.60	0.493
	Creating content with students	0.52	0.732
	Collaborating with other students in writing	0.10	0.222
	Creating content with educators from other universities	0.16	0.345
Social bookmaking	Writing an article	0.33	0.472
	Researching on interesting topics	0.25	0.211
	Keeping track of sources of materials	0.18	0.435
Podcasting	Recording lectures for students use and reflection	0.36	0.483
Flickr	Sharing related photos with the students	0.07	0.050
	Conducting field research building community of student	0.00	0.000
	Sharing photos of places especially in subjects that has to do with geographical	0.80	0.233
Youtube	Demonstrating experiment and or assignment to students	0.00	0.00
	Show demonstration of recorded presentation of conference	0.85	0.152
	Reviewing key concept discussed in class	0.23	0.333
LinkedIn	Professional collaboration with colleagues	0.03	0.180
Face book	Creating network of students	0.46	0.501
	Creating study groups	0.67	0.333
	Arranging study times	0.21	0.123
	Classifying assignment requirements	0.00	0.236
	Posting journal article	0.78	0.343
	Sharing educational messages	0.81	0.444
Twitter	Informal conversations	0.34	0.112
	Following the class on discussion on a topic	0.00	0.000
	Forming social network with other educators and researchers	0.54	0.441
	Sharing information resources	0.44	0.231
	Track current events	0.43	0.471

Table 5 presents information on the specific purposes of use of Web 2.0 tools among the

respondents. It shows that Blogs were being used mainly by the university lecturers for the purposes of commenting on important posts made by students (Mean = 0.45) and posting of reflections on class or online conversations (Mean = 0.40). Wikis, on the other hand, were found to be mainly used by the university lecturers for collaborating with students in writing (Mean = 0.60), and creating content with students (Mean = 0.52) while social bookmarking was mainly used for article writing (Mean = 0.33) and conducting research (Mean = 0.25). Podcasting was mainly used for recording of lectures for students; use and reflection as affirmed by the university lecturers (Mean = 0.36).

Moreover, Flickr was found to be mainly used for sharing of photos especially in subjects that has to do with geography (Mean = 0.80) while Youtube was being used to show demonstration of recorded presentation of conferences, workshops and/or seminars (Mean = 0.85). Facebook as a social media was being used by the university lecturers mainly for sharing educational messages (Mean = 0.81), posting journal articles (Mean = 0.78), and creating study group (Mean = 0.67) while forming social network with other educators and researcher (Mean = 0.43), sharing information resources (Mean = 0.44), and tracking of current events (Mean = 0.43) were found to be the major purposes for which the university lecturers make use of twitter. The above findings is in support of Ivala and Gachago (2010) finding which established the purposes for the use of web 2.0 tools by the lecturers to range from the need to motivate students to read, initiate dialogue and develop students' writing skills by posting a collaborative story, written by staff and students in monthly installments (Ivala and Gachago, 2010) and Uzunboylu et al. (2011) view that educators have also found a variety of creative applications, based on a constructivist foundation for the Web 2.0 tools including quick and informative website publishing, collaborative website posting, student assignments with peer review capabilities, problem solving, focused discussions, inter disciplinary projects, community building amongst students, collaboration practice and more.

Research Hypothesis 1

H₀₁: There is no significant difference in the awareness of Web 2.0 between Senior and Junior Academic staff of University

Table 6: T-test Showing Significant Difference in the Awareness of Web 2.0 Tools Between Junior and Senior Academic Staff in Selected Universities

Variable	N	Mean	Std. Dev	Std Error	t. Cal	t.Crit	df	Sig(2 tail)
Junior Academic	56	5.857	1.256	0.167	3.928	1.96	119	0.000
Senior Academic	65	7.661	3.232	0.400				

N.B: **Sig p<0.05

Table 6 shows the significance difference in the awareness level of Web 2.0 tools between Junior Academic Staff and Senior Academic Staff of University. It was revealed that the t- Calculated value of 3.923 was greater than t-Critical values of 1.96 (t.

Calculated=-3.928 > t-Critical=1.96, df = 119, P<0.05). This implies that there is a significant difference in the Web 2.0 awareness level between the junior academic lecturers and senior academic lecturers in selected universities. Therefore the null hypothesis was rejected. Also, the mean values from the table revealed that there are more university lecturers in the category of senior academics that are aware of Web 2.0 tools than those in the category of junior academic staff.

Research Hypothesis 2

H₀₂: There is no significant difference in the pattern of use of Web 2.0 in teaching and learning between Senior and Junior Academic staff of University

Table 7: T-test Showing Significant Difference in the Extent of Use of Web 2.0 Tools Between Junior and Senior Academic Staff in Selected Universities

Variable	N	Mean	Std. Dev	Std Error	t. Cal	t.Crit	df	Sig
Junior Academic	56	3.428	2.463	0.329	-1.639	1.96	119	0.104
Senior Academic	65	4.015	1.397	0.173				

N.B: **Sig p<0.05

Table 7 shows the significance difference in the extent of use of Web 2.0 in teaching and learning between junior academic staff and senior academic staff of the selected universities. It was observed that the t- Calculated value was lesser than t-Critical values (t. Calculated=-1.639 < t-Critical=1.96, df =119, P>0.05). The null hypothesis was accepted. Therefore, it was concluded that, there is no significance difference in the extent of use of Web 2.0 in teaching and learning between junior academic staff and senior academic staff in selected universities.

Conclusion and Recommendations

The study investigated the level of awareness and usage of Web 2.0 tools among the Lecturers in Nigerian universities. The study established a high level of Web 2.0 tools awareness among lecturers in Nigerian universities while Facebook, Youtube, Twitter, wikis, LinkedIn, and Podcasting were found to be the most popular Web 2.0 tools among the Lecturers. Also, a high level of use of Web 2.0 tools was established among the Lecturers in Nigerian universities though only Facebook, LinkedIn, and Wikis were found to be regularly used by the Lecturers in teaching and learning process. However, other Web 2.0 tools such as blogs, Podcasting, Flickr, Youtube, and Twitter were been used occasionally by the Lecturers. Major purposes of Web 2.0 tools by the Lecturers were found to be mainly in the areas of engaging the students in conversation, relating, communicating, and collaborating with colleagues, and sharing of educational materials for the purposes of teaching and learning. A significant difference was established in the level of awareness of Web 2.0 tools among the junior and senior lecturers while non-significant relationship was established in the level of use of Web 2.0 tools between junior and senior lecturers in Nigerian universities. Therefore, the use of Web 2.0 tools

has been found to have significant potential to support, enhance and promote enjoyable and interesting teaching and learning in Nigerian universities. In the light of the above findings, the following recommendations were made:

Efforts towards the use of Web 2.0 tools in teaching and learning in Nigerian universities should be stepped up while Lecturers should be introduced to the various Web 2.0 tools available and how each of these tools can be used for specific purposes to enhance effective and efficient teaching and learning.

Also, management of universities in Nigeria should make provision for ICT infrastructural support facilities that would encourage the use of Web 2.0 tools in the teaching and learning processes within and outside the universities campus. The provision of necessary infrastructure is the backbone of technology use in teaching and learning.

There is also the need for the lecturers in Nigerian universities to accept and adopt the use of Web 2.0 tools in teaching and learning as this will encourage and drive the students toward the use of Web 2.0 in their learning process.

References

- Barnes, C. and Tynan, B. (2007). The adventures of Miranda in the brave new world: learning in a Web 2.0 millennium. *Research in Learning Technology*, 15(3), 189–200.
- Freire J. (2007). Universities and web 2.0: institutional challenges. E-Learning Papers. 8
- Grossek G (2009). To use or not to use web 2.0 in higher education?. World Conference on Educational Sciences 2009. *Procedia Social and Behavioral Sciences*, 1, 478–482
- Ivala, E., and Gachago, D. (2010). Social media for enhancing students' engagement: the use of facebook and blogs at a University of Technology. An Essay submitted to Fundani Centre for Higher Education Development, Cape Peninsula University of Technology, 1-23
- Jones, R. (2008). Designing adaptable learning resources with learning object platforms. *Journal of Digital Information*, 6(1). Available at <http://Jodi.tam.edu/Article/v06/i0i/Jones>
- Kumar S. (2010). Undergraduate perceptions of the usefulness of Web 2.0 in higher education: Survey Development. In *Proceedings of 8th European Conference on E-learning (ECEL)*, Italy.
- Li, Y. & Ranieri, M. (2010). Are digital natives' really digitally competent: A study on Chinese teenagers. *British Journal of Educational Technology*, 1-14. Available at doi: 10.1111/j.1467-8535.2009.01053.X
- Maloney E (2007). What Web 2.0 can teach us about learning. *Chronicle of Higher Education*, 25:26.
- O'Reilly, T. (2005). What is Web 2.0? What's Web 2.0 website. Available at www.what'sweb2.0.com/will-pale/how-do-we-define-web-2-0

- Pew Internet and American Life Project (2002). The Internet goes to College. How students are living in the future with today's technology. Available at www.pewinternet.org/pdfs/PIP_College_Report.pdf
- Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon*, 9(5), 1-6
- Shank, P. (2008). Web 2.0 and Beyond: The changing needs of learners, new tools, and ways to learn. In S. Carliner and P. Shank (eds). *The e-Learning Handbook*. San Francisco: Wiley and Sons, 241-277.
- Simoës, L. and Gouveia, L. B. (2008). Web 2.0 and higher education: Pedagogical implications. *Proceedings of the 4th International Barcelona Conference on Higher Education, Vol. 2. Knowledge technologies for social transformation*. Barcelona: GUNI. Available at www.guni-rmies.net
- Tyagi, S. and Kumar, K. (2001). Web 2.0 for teaching, learning, and assessment in higher education: A case study of Universities in Western Uttar Pradesh (India). *International Journal of Library Science*, 3(11), 230-241
- Uzunboylu, H., Bicen, H., and Cavus, N. (2011) The efficient virtual learning environment: A case study of Web 2.0 tools and Windows live spaces. *Computers & Education*, 56, 720-726