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Information sharing and the use of Web 2.0 technologies for educational purposes by undergraduates of two Universities in Ibadan, Nigeria

Oluwatòsin. G. OMORINKOBA

and

Olalekan. A. AWUJoola

Department of Library, Archival and Information Studies, University of Ibadan.
tosmos007@gmail.com & abileks132917@gmail.com

Abstract

Availability of learning material online, online discussion forum and online testing often support and complement face to face teaching and learning. This has shifted focus from teacher-centred to student-centred learning; this is facilitated with the use of Web 2.0 tools. It is therefore necessary for students nowadays have a firm understanding of computer technology and its various applications to share information necessary for their educational purposes. Students sharing ideas is not new with the advent of Web 2.0 technologies. Students have long been swapping comments in tutorial, chatting and debating in classrooms. But with the use of the web it becomes a lot easier since the goal of the web is to facilitate easier dissemination of educational information to a wider audience. The study examined information sharing and use of web 2.0 for educational purposes by undergraduates. The study recommended that there is the need for institutions to train students on the use of Web 2.0 technologies tools and applications to enable them identify the necessary applications which help to meet their information needs. Students need to be sensitized on the various benefits of the use of web 2.0 for academic purposes. Faculties, departments and libraries should endeavour to provide functional and high-speed internet access for students. Institutions can develop Web 2.0 technologies application that can assist students with their academic work as well as serve as an avenue for exchange of information and entertainment.

Keywords

Information sharing, Use of Web 2.0, Web 2.0 Technologies, Undergraduates

Introduction

Web 2.0 takes its root from internet and this is because the adoption of the Internet in university system has intensified access to information and communication by providing un-reserved access to e-mail messages, web boards, online services and e-publications (Aminu, 2014). In practice, much of the recent focus of technological development in Nigerian universities has been concerned with promoting

the use of the Internet as a teaching and learning tool. Internet is appealing to universities for a number of reasons: it reduces the time lag between the production and utilization of knowledge; it promotes international cooperation and exchange of opinions; it furthers the sharing of information; and promotes multidisciplinary research.

In Nigeria, students use of Internet was

revealed to include for knowledge improvement, search for materials needed for assignments and for research works (Anunobi, 2006). University undergraduate are students in the tertiary institutions pursuing their first-degree programme in various disciplines. Due to their heavy workload, the undergraduates are usually going about looking for information from various sources to support their academic activities. This situation gets more chaotic, especially when students are given assignments and presentations to make. They need to search for information on their own, consequently it is expected that they consult appropriate sources for academic information, which requires enabling technology to access them. In Nigeria, Anunobi (2006) revealed that 81% of students at Federal University of Technology Owerri, Nigeria, used web 2.0 with their Internet for academic purposes as compared to 15% who used it for entertainment purposes.

In another dimension, even when the connectivity is available, the level of accessibility and utilization is still poorly low. In some institutions, undergraduates' access is still generally poor, while only the teachers and support staff use the ICT facilities. In spite of the fact that institutions of higher learning in Africa are generally aware of the impact, if not indispensability of ICT on teaching, learning and research, ICT is still rarely utilized to enrich teaching and learning activities in many universities because of the absence of connectivity in the institutions. But with the use of the web it becomes a lot easier since the goal of the web is to facilitate easier dissemination of educational information to a wider audience (Bjorneborn, 2004).

Today, college students use Web 2.0

applications more frequently than ever in and out of the classrooms. Applications such as blogs, instant messenger, online communities, video sharing tool, and web conferencing tool are gaining popularity. Students use them to create their own contents on the web, contribute and collaborate with others, and develop social networks via multiple formats of media and representation (O'Reilly, 2005): Students have long been swapping comments in tutorial, chatting and debating in classrooms. The Web has become more than an information repository or a place to search for resources. Rather, it is a medium through which information is transmitted and consumed, the Web is becoming a platform where content is created, shared, remixed, repurposed, and exchanged. A unique and defining feature of many Web 2.0 applications is the ability to harness the collective intelligence of users. With Web 2.0 applications, every user is invited to create content. Learners become part of a global human network in which they can harness the collective knowledge, intelligence, and skills of others, all over the world, in a way that has never before been possible. Through Web 2.0 applications, undergraduate students can interact with other learners, gain from shared experiences, and continuously construct their own knowledge. For teachers, this is an exciting time. The emergence of Web 2.0 technologies gives undergraduate students the opportunity to empower themselves as never before, through an array of exciting new learning tools and mediums.

Through Web 2.0 technologies, students can become creators of content and not just consumers, as they participate in learning activities facilitated by Web 2.0 tools, students

gain the opportunity to innovate and create in a collaborative multimedia environment. Today, thousands of Web 2.0 applications with potential in teaching and learning are available for students and educators. These tools include, but are not limited to: podcasts (e.g., iTunes), blogs (for example, .. Blogger, Wordpress), wikis (e.g., PBWiki, Wikispaces), bookmarking tools (for example, .. del.icio.us, Diigo) , social networking tools (e.g., EduSpace, Facebook, Ning), social media sharing tools (e.g., Flickr, SlideShare, YouTube), collaborative writing tools (e.g., Google docs, Zoho), virtual 3D community platform (e.g., Second Life), and social library tools (e.g., LibraryThing). For educators, alongside the exciting potential of Web 2.0 technologies, there is also the knowledge that students have been changing, whether or not we can keep up. Modern students, who are often “digital native” learners, have already found and integrated many Web 2.0 tools into their daily lives. As summarized by Prensky (2003), “Our students have changed radically. According to Allen (2004), web 2.0 applications are getting extreme attention across the entire sectors of education industry. Researchers are of the opinion that the existence of the new web 2.0 applications and technologies are creating more opportunities for efficient learning and have the possibility to aid lifelong competence development (Klamma, Chatti, Duval, Hummel, Hvannberg, Kravcik, Law, Naeva and Scott, 2007).

There are five main characteristics of Web 2.0:

- i. User generated content (UGC), which refers to self-publishing, personal publishing, and self-expression (Downes, 2004).
- ii. The wisdom of crowds: the theory that groups operating according to certain

conditions can solve problems more effectively than even the most intelligent individual member of the group.

- iii. Sharing information.
- iv. Network effect, an economic term used to describe the increase in value to existing users of a service, as more people start to use it (Klemperer, 2006).
- v. Openness: working with open standards, using open-source software, making use of free data, re-using data, and working in a spirit of open innovation (Anderson, 2007).

Information has greatly been shared through the use of the Web 2.0. While digital cameras and camera-enabled mobile phones can be used to capture information, Web 2.0 tools can be used to publish and share that information, facilitating collaboration and peer knowledge sharing. There are numerous examples of informal communities of practice that have flourished using social software and sharing information online. For example, craft enthusiasts share photographs and information about craft practices on the web (Torrey, Churchill, and McDonald, 2009), contributors to Wikipedia share their knowledge on a variety of topics (Bryant, Forte, and Bruckman, 2005). In addition, young people have been identified as active participants in online interest groups catering to fan communities, gaming enthusiasts, and amateur writers (Lange, Ito, Horst, Bittanti, Boyd and Herr-Stephenson, 2008). Many commentators have suggested that the informal learning that occurs in these technology-mediated communities could be emulated in higher education settings, providing a bridge between social and formal learning spaces (Bull, Thompson, Searson, Garofalo, Park, Young and Lee, 2008; Greenhow, 2008;

Selwyn, 2007).

Acquiring, sharing, and processing information are critical activities for decision making. Recent research on information sharing typically regards this activity through an objective lens: Information sharing disseminates information that holds the same meaning to everyone. An alternate rationale for information sharing is the social construction of meaning. For example, saying that the weather forecast predicts rain could be to inform another of weather predictions or to invite a discussion on the accuracy of weather forecasts. Viewed through such a "subjective" lens, information sharing also facilitates interpretation in a social context. Research findings about the effect of CT (collaborative technologies such as email and multimedia systems) on group information sharing activities are mixed (Gallupe and DeSanctis, 2004). While the use of such technologies was found to enhance information sharing in some studies (i.e., Dennis 2004, Jarvenpaa and Tractinsky, 2003), it had no effect in other studies (Mennecke and Valacich, 2004; Warkentin, Sayeed and Hightower, 2003). It even inhibited information sharing in some studies (Hightower and Sayeed, 2004, Hollingshead, 2004, McLeod, 2004). Adopting a different view of information sharing, as well as operationalizing the construct more richly, may help illuminate research on information sharing. The present research report offers an interpretive perspective of information sharing, operationalized in two dimensions: breadth and depth of information sharing. Previous research tended to view electronic media as replacing face-to-face communication. In reality, workgroups with access to electronic media also have access to other media. Consistent with the

experimental research stream on collaborative technologies (CT) at the University of Minnesota (Gallupe and DeSanctis, 2004; Watson, DeSanctis and Poole, 2003; Zigurs and Buckland, 1998) created experimental environments that were either face-to-face or multimedia (both face-to-face and electronic media). Paradoxically, while the availability of the electronic medium in multimedia environments may hamper information sharing, once available, using such media may be more effective than face-to-face communication.

For educators who implement student-centered learning activities and students who want to gain knowledge or skills through student-centered learning, Web 2.0 applications could also provide versatile opportunities. Boyd (2007) claimed that social aspects of Web 2.0 might support three activities that characterize student-centred learning. First is the support for conversational interaction. Second is the support for social feedback. Third is the support for social networks and relationship between people for enhancing the learning experience. *Face book* (<http://www.thefacebook.com>), for example, is a social network community (SNC) that could enrich the learning process by allowing users to express themselves freely (Selwyn, 2007). Since *Face book* has many useful facets for education such as reflective elements, peer-feedback with social context of learning, some educators have utilized its capacity for connecting students easily and optimistically (Lemeul, 2006). *Second Life* an online virtual community, has also been used for educational purposes because it supports learning activities such as uploading personal opinions, participating in team work, and sharing knowledge and information made by

users (Selwyn, 2007).

Johnson and Levine (2008 and 2009) reported that in the next three to five years, higher education institutions will adopt a wide variety of Web 2.0 applications for the purposes of better engaging college students and enhancing instructional efficiencies. In terms of informal learning, Klamma, Chatti, Duval, Hummel, Hvannberg, Kravcik, Law, Naeve and Scott (2007) suggested that Web 2.0 applications could facilitate and enhance lifelong learning experience by connecting students in collaborative environments with diminishing boundaries around the world. People are engaged in a wide range of technologies-based informal learning at home and in the communities by continuously collaborating with others in interaction-rich social environments (Selwyn, 2007). In sum, Web 2.0 applications, as discussed earlier, might be prominent to enable educators to create personalized, active, participatory, and cooperative learning environments (McLoughlin and Lee, 2007). In turn, educators can provide extensive opportunities for students who have various needs to enhance their learning experiences through enriched interactions and collaborations in Web 2.0 applications (Bryant, 2006; McLoughlin and Lee, 2007).

The library and information science (LIS) community has often discussed Web 2.0. Stephens (2006) asserted that many people associate it with terms such as blogs, wikis, podcasts, RSS feeds, and social web. He claimed that Web 2.0 is a place where everyone can add or edit information and where digital tools allow users to create, change, and publish dynamic content. For Miller (2006), Web 2.0 is

participative and presents the value of user-generated content. It is about sharing and communication; it opens the long tail that allows small groups of individuals to benefit from key pieces of the platform while fulfilling their own needs. The question then is: have undergraduates in the University of Ibadan and Lead City University begun to use web 2.0 for educational purposes? If not, why? If so, what opportunities and challenges are the undergraduates encountering in sharing of information online and the use of web 2.0 tools in their educational activities?

Objectives of the Study

The main objective of the study is to examine the level of information sharing and the use of web 2.0 technologies for educational purposes by undergraduates of the University of Ibadan and Lead City University. The specific objectives were to:

- i. identify the purpose for which undergraduate students uses Web 2.0 technologies;
- ii. ascertain the types of information shared using Web 2.0 technologies by undergraduates;
- iii. examine the frequency of usage of Web 2.0 technologies by undergraduates;
- iv. find out the level of usage of Web 2.0 technologies by undergraduates;
- v. examine the length of usage of Web 2.0 technologies by undergraduates;
- vi. identify the constraints faced by undergraduates in using Web 2.0 technologies.

Methodology

The survey research design of the expository type was adopted for this study. The population comprised the undergraduates in all

levels in thirteen (13) and three (3) faculties in the University of Ibadan and Lead City University respectively. The total population of undergraduates in the two universities was 14,135 (that is, 12,935 from the University of Ibadan (University of Ibadan Pocket Statistics, 2012) and 1,200 from Lead City University (students' record office). A multi-stage sampling technique was used to select the sample size for this study. Therefore, by means of simple proportionate random sampling, two faculties were selected from each university; Social Sciences and Science from the University of Ibadan and Social Sciences/Entrepreneurial and Information Technology and Applied Science from Lead City University. These faculties were later stratified into departments. Two departments were proportionately randomly selected from each faculty (This sample size is

justified by Krejcie and Morgan (1970) who recommended a sample size of 384 for a population of 200,000 and Thomas (2003) who recommended a sample size of 500 as adequate for a population of 9,000) A sample fraction of 20% was used to get a sample size of 344. The questionnaire was the collection instrument and data was analysed using the descriptive statistical measures such as percentages and frequency distribution. The statistical package for the social sciences (SPSS) was used for further analysis. Descriptive statistics of tables, frequencies and percentages were used in analyzing the data collected and also to show the questionnaire response rate.

Findings

Question One: What are the purposes of use of Web 2.0 Technologies by undergraduates?

Table1: Purpose of Use of Web 2.0 Technologies

Web 2.0 Technologies	UNIVERSITY OF IBADAN						LEAD CITY UNIVERSITY													
	Assignment		Personal		Research		News		Entertainment		Assignment		Personal		Research		News		Entertainment	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
Blogs	52	21.8	20	8.4	47	19.7	46	19.3	65	27.3	22	20.8	9	8.5	23	21.7	20	18.9	31	29.2
Wikis	69	29.0	67	28.2	65	27.3	24	10.1	5	2.1	26	24.5	35	33.0	31	29.2	12	11.3	1	0.9
Instant message	15	6.3	123	51.7	45	18.9	8	3.4	35	14.7	11	10.4	56	52.8	25	23.6	-	-	12	11.3
Podcasts /Webcasts	26	10.9	53	22.3	56	23.5	55	23.1	14	5.9	11	10.4	27	25.5	24	22.6	25	23.6	7	6.6
RSS	49	20.6	56	23.5	36	15.1	40	16.8	19	8.0	22	20.8	28	26.4	16	15.1	20	18.9	9	8.5
Social bookmarking	45	18.9	69	29.0	30	12.6	29	12.2	47	19.7	21	19.8	36	34.0	15	14.2	15	14.2	15	14.2
Social Networking Sites	6	2.5	82	34.5	12	5.0	43	18.1	95	39.9	4	3.8	31	29.2	8	7.5	24	22.6	39	36.8
Media Sharing	10	4.2	52	21.8	45	18.9	31	13.0	100	42.0	4	3.8	21	19.8	29	27.4	11	10.4	41	38.7
News groups	23	9.7	72	30.3	46	19.3	72	30.3	17	7.1	8	7.5	41	38.7	23	21.7	22	20.8	10	9.4

The purposes for using the technologies were grouped into five: assignment, personal, research, news and entertainment. Table 1 revealed that instant messaging was the highest used Web 2.0 technologies with 123(51.7%) respondents using it for personal purpose and wikis being used the lowest with .05(2.1%) respondents of the total number of respondents using it for entertainment purpose at the University of Ibadan, while at Lead City University, 56 (52.5%) of the respondents used instant messaging the highest for personal

purpose and 01(0.9%) of the respondents used wikis the lowest for the purpose of entertainment.

Question Two: What type of information do the undergraduates share using Web 2.0 technologies?

Table 2: Types of Information Shared using Web 2.0 Technologies

Web 2.0 Technologies	UNIVERSITY OF IBADAN										LEAD CITY UNIVERSITY													
	Academic		Health		Politics		News		Entertainment		Sport		Academic		Health		Politics		News		Entertainment		Sport	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Blogs	79	33.2	6	2.5	16	6.7	28	11.8	95	39.9	6	2.5	31	29.2	4	3.8	12	11.3	8	7.5	46	43.4	4	3.8
Wikis	107	45.0	30	12.6	18	7.6	47	19.7	12	5.0	16	6.7	40	37.7	15	14.2	11	10.4	21	19.8	8	7.5	10	9.4
Instant message	30	12.6	13	5.5	12	5.0	70	28.6	85	35.7	6	2.5	14	13.2	6	5.7	8	7.5	37	34.9	33	31.1	4	3.8
Podcasts /Webcasts	48	20.2	12	5.0	23	9.7	76	31.9	47	19.7	0	0	21	19.8			14	13.2	29	27.4	27	25.5	0	0
RSS Feeds	71	29.8	11	4.6	22	9.2	54	22.7	21	8.8	23	9.2	35	33.0	6	5.7	15	14.2	16	15.1	10	9.4	16	15.1
Social bookmarking	50	21.0	22	9.2	11	4.6	41	17.2	96	40.3	6	2.5	24	22.6	10	9.4	8	7.5	15	14.2	43	40.6	4	3.8
Social Networking Sites	6	2.5	22	9.2	0	0	50	21.0	156	65.5	0	0	4	3.8	9	8.5	0	0	30	28.3	63	59.4	0	0
Media Sharing	4	1.7	22	9.2	39	16.4	41	17.2	117	49.2	11	4.6	0	0	10	9.4	22	20.8	16	15.1	50	47.2	8	7.5

The scales for measuring the types of information shared by undergraduates from web 2.0 technologies were grouped into six: academics, health, politics, news, entertainments and sports respectively. Table 2 revealed that in University of Ibadan, media sharing was the highest type of information shared on web 2.0 technologies with 117(49.2%) respondents using it for entertainment while the least was also media

sharing for academic purposes having four (1.7%). In Lead City University, 63(59.4%) of the respondents shared social networking sites the highest for entertainment and four (3.8%) of the respondents shared social networking sites the least for academic purposes.

Question Three: What is the frequency of using Web 2.0 technologies by undergraduates?

Table 3: Frequency of Use of Web 2.0 Technologies

Web 2.0 Technologies	UNIVERSITY OF IBADAN										LEAD CITY UNIVERSITY															
	Daily		Twice a Week		Once a Week		Twice a Month		Once a Month		Occasionally		Never		Daily		Twice a Week		Once a week		Twice a month		Once a Month		Occasionally	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
Blogs	44	18.5	39	16.4	28	11.8	10	4.2	5	2.1	73	30.7	39	16.4	15	14.2	20	18.9	9	8.5	3	2.8	4	3.8	32	30.2
Wikis	39	16.4	26	10.9	24	10.1	6	2.5	11	4.6	94	39.5	38	16.0	15	14.2	14	13.2	10	9.4	4	3.8	8	7.5	34	32.1
Instant message	87	36.6	10	4.2	30	12.6	-	-	31	13.0	60	25.2	20	8.4	31	29.2	7	6.6	15	14.2	-	-	18	17.0	28	26.4
Podcasts /Webcasts	24	10.1	22	9.2	20	8.4	-	-	37	15.5	61	25.6	34	14.3	6	5.7	13	12.3	5	4.7	-	-	22	20.8	24	22.6
RSS Feeds	12	5.0	18	7.6	34	14.3	36	15.1	38	16.0	67	28.2	25	10.5	3	2.8	9	8.5	16	15.1	23	21.7	19	17.9	25	23.6
Social bookmarking	32	13.4	32	13.4	38	16.0	39	16.4	30	12.6	34	14.3	33	13.9	6	5.7	19	17.9	22	20.8	20	18.9	13	12.3	14	13.2
Social Networking Sites	117	49.2	19	8.0	30	12.6	16	6.7	12	5.0	44	18.5	-	-	43	40.6	9	8.5	16	15.1	9	8.5	8	7.5	21	19.8
Media Sharing	67	28.2	50	21.0	18	7.6	15	6.3	37	15.5	51	21.4	-	-	22	20.8	26	24.5	10	9.4	8	7.5	19	17.9	21	19.8

The scales for measuring the frequency of use of web 2.0 technologies were daily, twice a week, once a week, twice a month, once a month, occasionally, and never. Table 3 revealed that in University of Ibadan, the largest number of respondents 117(49.2%) used social networking sites daily while 05(2.1%) used

blogs once a month. In Lead City University, largest number of respondents used social networking sites daily with 43(40.6%) while blogs was used twice a month with 03(2.8%).

Question Four: What is the level of use of Web 2.0 technologies by undergraduates?

Table 4: Level of Use of Web 2.0 Technologies

Web 2.0 Technologies	UNIVERSITY OF IBADAN					LEAD CITY UNIVERSITY														
	Nil		Low		Average		High		Very high		Nil		Low		Average		High		Very high	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
Blogs	47	19.7	20	8.4	58	24.4	57	23.9	56	23.5	24	22.6	7	6.6	23	21.7	27	25.5	25	23.6
Wikis	10	4.2	43	18.1	74	31.1	46	19.3	65	27.3	5	4.7	22	20.8	28	26.4	21	19.8	30	28.3
Instant message	30	12.6	20	8.4	53	22.2	57	23.9	78	32.8	10	9.4	6	5.7	29	27.4	27	25.5	34	32.1
Podcasts /Webcasts	59	24.8	36	15.1	71	29.8	38	16.0	34	14.3	15	14.2	15	14.2	35	33.0	22	20.8	19	17.9
RSS Feeds	42	17.6	40	16.8	83	34.9	35	14.7	22	9.2	16	15.1	21	19.8	35	33.0	16	15.1	13	12.3
Social bookmarking	30	12.6	45	18.9	35	14.7	71	29.8	47	19.7	9	8.5	21	19.8	15	14.2	31	29.2	28	26.4
Social Networking Sites	10	4.2	27	11.3	42	17.6	49	20.6	110	46.2	4	3.8	15	14.2	21	19.8	24	22.6	42	39.6
Media Sharing	14	5.9	39	16.4	84	35.3	25	10.5	76	31.9	4	3.8	15	14.2	40	37.7	12	11.3	35	33.0

The scale used for measuring the level of use of Web 2.0 technologies were: nil, low, average, high and very high. For the purpose of writing the result, high and very high were merged to become high, so the scales used were high, average, low, and nil. Table 4 revealed that in University of Ibadan, social networking sites had the highest level of usage with 110 (46.2%) respondents, while the least was wikis with 10

(4.2%) respondents respectively. Meanwhile, in Lead City University, social networking sites also had the highest level of usage with 42 (39.6%) respondents while the least was media sharing level of usage with 04(3.8%) respondents.

Table 5: Length of Usage of Web 2.0 Technologies

Web 2.0 Technologies	UNIVERSITY OF IBADAN								LEAD CITY UNIVERSITY											
	Less than 3 month		3-6 months		6-12 months		1-2 years		More than 2 years		Less than 3 month		3-6 months		6-12 months		1-2 years		More than 2 years	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
Blogs	38	16.0	10	4.2	35	14.7	47	19.7	100	42.0	16	15.1	5	4.7	16	15.1	16	15.1	51	48.1
Wikis	4	1.7	27	11.3	26	10.9	42	17.6	135	56.7	1	0.9	16	15.1	9	8.5	16	15.1	63	59.4
Instant message	25	10.5	11	4.6	38	16.0	82	34.5	74	31.1	11	10.4	4	3.8	17	16.0	47	44.3	26	24.5
Podcasts /Webcasts	14	5.9	27	11.3	51	21.4	60	25.2	64	26.9	2	1.9	16	15.1	24	22.6	27	25.5	32	30.2
RSS Feeds	35	14.7	28	11.8	26	10.9	51	21.4	68	28.6	13	12.3	12	11.3	15	14.2	26	24.5	31	29.2
Social bookmarking	35	14.7	35	14.7	28	11.8	65	27.3	61	25.6	11	10.4	20	18.9	17	16.0	32	30.2	22	20.8
Social Networking Sites	19	8.0	20	8.4	6	2.5	42	17.6	151	63.4	9	8.5	12	11.3	4	3.8	15	14.2	66	62.3
Media Sharing	18	7.6	25	10.5	57	23.9	29	12.2	109	45.8	6	5.7	12	11.3	30	28.3	10	9.4	48	45.3

Table 5 showed length of usage of web 2.0 technologies among respondents in both universities. The findings revealed that in University of Ibadan, 151(63.4%) respondents started using social networking sites for more than two years, while 04(1.7%) respondents started using wikis for less than three months. In Lead City University, 66(62.3%) respondents

started using social networking sites for more than two years while 01(0.9%) of the respondents started using wikis for less than three months.

Question Six: What are the challenges encountered in the use of Web 2.0 technologies by undergraduates?

Table 6: Challenges Encountered in the Usage of Web 2.0 Technologies

Web 2.0 Technologies	UNIVERSITY OF IBADAN								LEAD CITY UNIVERSITY							
	Strongly Agree		Agree		Disagree		Strongly Disagree		Strongly Agree		Agree		Disagree		Strongly Disagree	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
Inadequate power supply	79	33.2	100	42.0	15	6.3	40	16.8	35	33.0	36	34.0	9	8.5	26	24.5
Inadequate equipment	58	24.4	101	42.4	59	24.4	20	8.4	24	22.6	41	38.7	30	28.3	11	10.4
Lack of internet access	41	17.2	101	42.4	64	26.9	32	13.4	18	17.0	42	39.6	30	28.3	16	15.1
Low bandwidth	12	5.0	101	42.4	101	42.4	24	10.1	4	3.8	41	38.7	48	45.3	13	12.3
Lack of fund	50	21.0	71	29.8	95	39.9	22	9.2	16	15.1	38	35.8	43	40.6	9	8.5
Time constraint	34	14.3	112	47.1	67	28.2	25	10.5	16	15.1	32	30.2	37	34.9	22	20.8
Lack of Web 2.0 skills	31	13.0	71	29.8	85	35.7	51	21.4	15	14.2	32	30.2	37	34.9	22	20.8
Inadequate training	36	15.1	90	37.8	74	31.1	38	16.0	19	17.9	43	40.6	33	31.1	11	10.4
ICT- unfriendly environment	54	22.7	74	31.1	69	29.0	41	17.2	23	21.7	40	37.7	32	30.2	11	10.4
Religion	32	13.4	34	14.3	67	28.2	105	44.1	16	15.1	18	17.0	34	32.1	38	35.8

The scales for measuring challenges of using web 2.0 technologies were strongly agree, agree, disagree, and strongly disagree. But for the purpose of writing the result, strongly agree and agree were merged to become agree, while

disagree and strongly disagree were merged to become disagree. Table 6 revealed that in University of Ibadan, the largest number of respondents 112(47.1%) agreed that time constraint was the major challenge encountered

by students in using Web 2.0 technologies while the least challenge was low bandwidth with 12 (5.0%). In Lead City University, the largest number of respondents 48 (45.3%) disagreed that low bandwidth was the major challenge encountered by students in the use of Web 2.0 technologies, while the respondents with least challenge agreed that low bandwidth was the major challenge encountered with 04(3.8%). low bandwidth was the major challenge encountered by students in the use of Web 2.0 technologies, while the respondents with least challenge agreed that low bandwidth was the major challenge encountered with 04(3.8%).

Conclusion

The explosion of Web 2.0 technologies in academic institutions has created a perfect environment for educators and shaped students learning approach, lecturers approach to teaching, communication, interaction and collaboration. Through effective use of Web 2.0 technologies, students can become creators of contents and initiate collaborative multimedia environment. Information sharing on Web 2.0 technologies is a vital element that helps undergraduates searching for online information. Online learning makes communication, teaching, and research and information dissemination easy and convenient. Web 2.0 technologies used by undergraduates are social networking sites, media sharing and instant messaging. The availability and accessibility of good Web 2.0 technologies has contributed significantly in the academic activities of students. Communication and dissemination of information among mates and lecturers has been improved and writing of term papers, group/individual research work and

project work has also been facilitated by Web 2.0 technologies. For students to perform better there is need for them to be internet literate and adequately equipped with necessary Web 2.0 technologies tools and their applications to facilitate easy access and use in order to disseminate and share information at any point in time.

Recommendations

The following are recommended based on the findings of the study:

- I. There is the need for institutions to train undergraduates on the use of Web 2.0 technologies tools and applications to enable them identify the necessary applications which help to meet their information needs.
- ii. Undergraduates need to be sensitized on the various benefits of the use of web 2.0 for academic purposes.
- iii. Faculties, departments and libraries should endeavour to provide functional and high-speed internet access for undergraduates.
- iv. Institutions can develop Web 2.0 technologies application that can assist undergraduates with their academic work as well as serve as an avenue for exchange of information and entertainment.
- v. Government should reduce the cost of bandwidth in the country to as low as possible to enable deep data and internet penetration and also enable universities procure adequate bandwidth for high speed internet access; and
- vi. Government should as a matter of importance expedite action on its current road map for the power sector in order to

eliminate the problem of inadequate power supply in the country or put all universities on priority line and mandate proprietors to always pay promptly for any power consumption arising there from.

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