

University of Nebraska - Lincoln
DigitalCommons@University of Nebraska - Lincoln

Library Philosophy and Practice (e-journal)

Libraries at University of Nebraska-Lincoln

May 2019

Adoption of Web 2.0 Applications for Education by Students in Nigeria

Awele Adibi
awele.adibi@gmail.com

foluke okocha
dada.foluke@lmu.edu.ng

Follow this and additional works at: <https://digitalcommons.unl.edu/libphilprac>

Part of the [Education Commons](#), and the [Library and Information Science Commons](#)

Adibi, Awele and okocha, foluke, "Adoption of Web 2.0 Applications for Education by Students in Nigeria" (2019). *Library Philosophy and Practice (e-journal)*. 2507.

<https://digitalcommons.unl.edu/libphilprac/2507>

Adoption of Web 2.0 Applications for Education by Students in Nigeria

Adibi Awele and Okocha Foluke

Abstract

This study entailed the survey of the use of Web 2.0 for educational purposes by the students in Nigeria. The sample of the study constituted of students from seven faculties and one center which were purposively selected. The study used a questionnaire as its instrument of data collection. Four hundred copies of the questionnaire were distributed among the sample, out of which 380 were returned and found usable. Statistical Package for Social Sciences (SPSS) was used to analyze the collected data. Statistical methods used for the analyses of the data were frequency distribution, cross tabulation, T-test, One-way ANOVA and Regression.

The study revealed that majority of the students of the University of Ibadan is already familiar with the term “Web 2.0” and are using it for educational purposes. The students indicated that the Internet was their source of information about the term “Web 2.0”. Also, course mates/ friends, lecturers and newspapers/magazines were sources of information. In exploring the group of students that use Web 2.0 for education purposes, it was discovered that the students in higher levels use Web 2.0 tools more than their counterparts in lower levels and majority of these students are in IT-related departments like computer science, library, archival and information studies.

Keywords: Web 2.0, Education, Blogs, Nigeria

Introduction

The emergence of the Web has caused a change in the educational system leaving behind the traditional means of teaching into a collaborative and interactive means of learning. Traditional Learning method is insufficient in bringing out effective learning. The web is an environment that encourages networking and knowledge sharing causing a shift from the teacher centered mode of learning to student centered thereby stimulating critical and analytical thinking in the minds of learners. Higher institutions are promoting new methods of teaching to meet the needs of the current generation of students in driving independence in the learning environment (Mcloughlin and Lee, 2008). Several researchers have carried out studies on how Web 2.0 can be applied to the various fields of study. Such studies include; medical education (Boulos et al, 2006 as cited Sandars and Schroter, 2007), teaching business course (Bisoux ,2008), architecture and art (Jones, 2007), information science education (Bawden, Robinson, Anderson, Jessica, Rutkauskine and Polona, 2007), Web programming course (Saeed et al, 2007), library course

(Zazzau, 2009), nursing education (Hansen and Erdley, 2009), marketing and communication (Reuben, ??), chemistry (Schroedar and Greenbowe, 2009), and languages (Jones, 2009)

Problem Statement

Learning materials, quizzes, online discussion create an environment in education that complements traditional teaching methods which makes learning more students focused than teacher focus. Faculty believe that students belong to the generation of technology and a willingness to use this technologies have greater probabilities of acceptance (Arif, 2001). Web 2.0 enables students to share knowledge, stimulates critical and analytical thinking skills, though students have long shared knowledge without the use of technology, Web 2.0 offeres more benefits in promoting interaction between peers and teachers (Bjorneborn, 2004). Grosseck (2009), suggested that wikis can be used to create and maintain classroom FAQ, classroom discussion and debate, while blogs can be used for dissemination of lectures' publications and materials. Podcast can complement teaching and learning when used to publish recorded audio and video lectures (Saeed, Yang and Sinnapan, 2009).

However a gap still exists in the adoption of web 2.0 in Nigeria when compared to other countries. Although, Kleimann (2008), believe that Web 2.0 discourses to date is stronger than practice itself. University enhancement system using a social networking approach was researched upon by Awodele, Idowu and Anjorin (2009) focusing on how the administrative unit (non academic) as medical services, guidance and counseling, etc, within the institution can be enhanced. The Federal University of Technology, Akure (FUTA) was used as a case study by Aborisede (2009) to investigate a Nigerian XXL-cohort wiki-learning experience: observation, feedback and reflection. Against this backdrop, it is necessary that a research work is carried out to determine if students of higher institution most especially students of the University of Ibadan (Nigeria) are using Web 2.0 for educational purposes. Web 2.0 applications have the potential to spread out and reshape Nigerian tertiary institutions' teaching and learning procedures (Kleimann, 2008).

Objectives of the Study

The general objective of this study is to examine the use of Web 2.0 for educational purposes by students of the University of Ibadan. The specific objectives include;

1. To find out the attitude of students of the University of Ibadan toward educational information online.
2. To find out if the students of the University of Ibadan use Web 2.0.
3. To identify the reasons why students of the University of Ibadan use Web 2.0.

4. Identify the factors that influence the attitude of students of the University of Ibadan toward the use of Web 2.0.
5. Identify constraints faced by the students in using Web 2.0 for educational purposes.

Research Questions

In examining the use of Web 2.0 for educational purposes by students of the University of Ibadan, the following questions will guide the study;

1. Do students of the University of Ibadan use Web 2.0?
2. What purposes do students of the University of Ibadan use Web 2.0 for?
3. How often do the students use Web 2.0 for educational purposes?
4. How useful and relevant are Web 2.0 technologies to the students?
5. What are the factors that influence students on the usage of Web 2.0?
6. What application/service(s) of Web 2.0 is mostly used by students?
7. Are the students aware of the benefit of using Web 2.0 to perform their educational tasks?
8. Do the students encounter problems while using these technologies?
9. How reliable is the information or service obtained using Web 2.0 tools?

Statement of Hypothesis

1. H₀ – There is no significant relationship between the age of the students and the use of Web 2.0 for educational purposes.
2. H₀- There is no significant relationship between the gender of the students and the use of Web 2.0 for educational purposes.
3. H₀- There is no significant relationship between the course of study of the students and the use of Web 2.0 for educational purposes.
4. H₀-There is no significant relationship between the Level of study of the students and the use of Web 2.0 for educational purposes.

5. H0- There is no significant relationship between the self efficacy of the students and the use of Web 2.0 for educational purposes.
6. H0- There is no significant relationship between the availability of resources and the use of Web 2.0 for educational purposes.
7. H0- There is no significant relationship between the influence from peers on the students and the use of Web 2.0 for educational purposes.
8. H0- There is no significant relationship between the influence from lecturers on the students and the use of Web 2.0 for educational purposes.
9. H0- There is no significant relationship between the compatibility of learning tasks of students and the use of Web 2.0 for educational purposes.
10. H0- There is no significant relationship between perceived usefulness and the use of Web 2.0 for educational purposes.
11. H0- There is no significant relationship between ease of use and the use of Web 2.0 for educational purposes.
12. H0- There is no significant relationship between self- efficacy of students, availability of resources in the learning environment, peer influence, lecturer influence, compatibility of learning tasks, perceived usefulness of Web 2.0, and ease of use of Web 2.0 on use of Web 2.0 for educational purposes.

Literature Review

Web 2.0 is a second generation service available on the web that enables knowledge sharing and collaboration (Thompson, 2007). It emerged at a brainstorming discussion between O' Reilly & the media live in 2005. Certain foundational technologies on web 2.0 have been implemented in education, these are the technologies and standard that utilizes the internet and the web. Web 2.0 technologies include blogs, social networks, podcasts and wikis etc.

Blogs are online dairies that enable users publish information in an organized manner. Research has shown blogs have impacted the educational sphere globally (Weller et al. 2005). Blogs have been shown to increase learning ability (Hain & Back,2010), improve critical analytical skills (Doffy, 2008), enable students think deeper on concepts taught in class (Halic et al. 2010). Studies focusing on the impact of blogging on education have shown that blogs improve learning

(Halic et al. 2010), encourage knowledge sharing (Davi et al. 2007), encourage collaboration with peers and lecturers (Farmer et al.2008). In Nigeria, the adoption of blogs in education has been low. A study carried out by Diyaolu & Rifqah (2015) found half of student's sampled found blogging useful in learning. Similarly Nwasnwu et al (2014) found that blogs played a great role in promoting creative writing skills. Okocha (2016) also showed the role of blogs in education. Findings showed that privacy,solitary learning and insufficient information on the role of blogs in education limited the adoption of blogs in Nigeria, Wikis, podcasts and social networks are the only web 2.0 tools studied. These technologies encourages encourage knowledge sharing , promote writing skills, collaborative and critical thinking skills (Usluel & Mazman,2009). 21st century learners are no longer satisfied with traditional learning methods (Melvile, 2007). Traditional learning offers limitations on students due to prepackaged learning materials, assessments defined by teachers which make learning teacher centered (Mcloughline & Lee, 2008). Today's generation of students seek to have more control in their learning through the inclusion of technologies that support this mode of learning(Mcloughline & Lee, 2008).These students are generally considered digital natives and these technology inclined students have opened up opportunities for the implementation of web 2.0 in education.

Web 2.0 as Means of Supporting Collaborative Learning

McConnell (1999) as cited by Boulos and Wheeler (2007) defines collaborative learning as an activity where learners who are brought together through the Internet focus on working together as a learning community in which they share resources, knowledge, experiences and responsibilities. Curtis and Lawson (2001) describe collaborative learning as situations in which two or more subjects build synchronously and interactively a joint solution to some problem. Collaborative learning involves the making of meaning in the context of joint activity (Simoes and Gouveia, 2008) and this learning is not merely acquired through interaction but it consists of interactions that occur between participants (Stahl, Koschmann and Suthers, (2006) as cited by Simoes and Gouveia, (2008)). Blended Learning is one of the technologies that support collaborative learning.

Blended learning as defined by Oliver and Trigwell (2005) as cited by Motteran and Shama (2009) are the integrated combination of traditional learning with Web based on-line approaches. Blended learning is the combination of the face-to-face part of a course and the appropriate use of technology (Barrett and Sharma, (2007) as cited by Motteran and Shama, (2009)). Blended learning enables the face-to-face class to be extended to an online technology (Motteran and Shama, 2009) such as wikis, blogs and podcasts. These technologies have the potential to promote interactive and collaborative environments, which in turn encourage a deeply satisfying experience for the teachers and also the students (Anderson, 2007). Hamman and Wilson (2003) as cited by Munoz and Towner (2009), observed that students who participated in a Web enhanced class outperformed

students in a traditional lecture form. This indicates that technology can be used to enhance learning.

Theoretical and Conceptual Frameworks

In an effort to understand the use of Web 2.0 for educational purpose by students of higher institutions in Oyo state, this study employs the Decomposed Theory of Planned Behavior (DTPB) as its theoretical framework. (Taylor and Todd, (1995) as cited by Hartshorne and Ajjan, (2008)). The Decomposed Theory of Planned Behavior (DTPB) is an extension of the theory of planned behavior which suggests that a combination of behavioral intention and perceived behavioral control determine one's actions (Ajzen, (1991) as cited by Hartshorne and Ajjan, (2008)) as shown in figure 2.1

Theoretical Framework

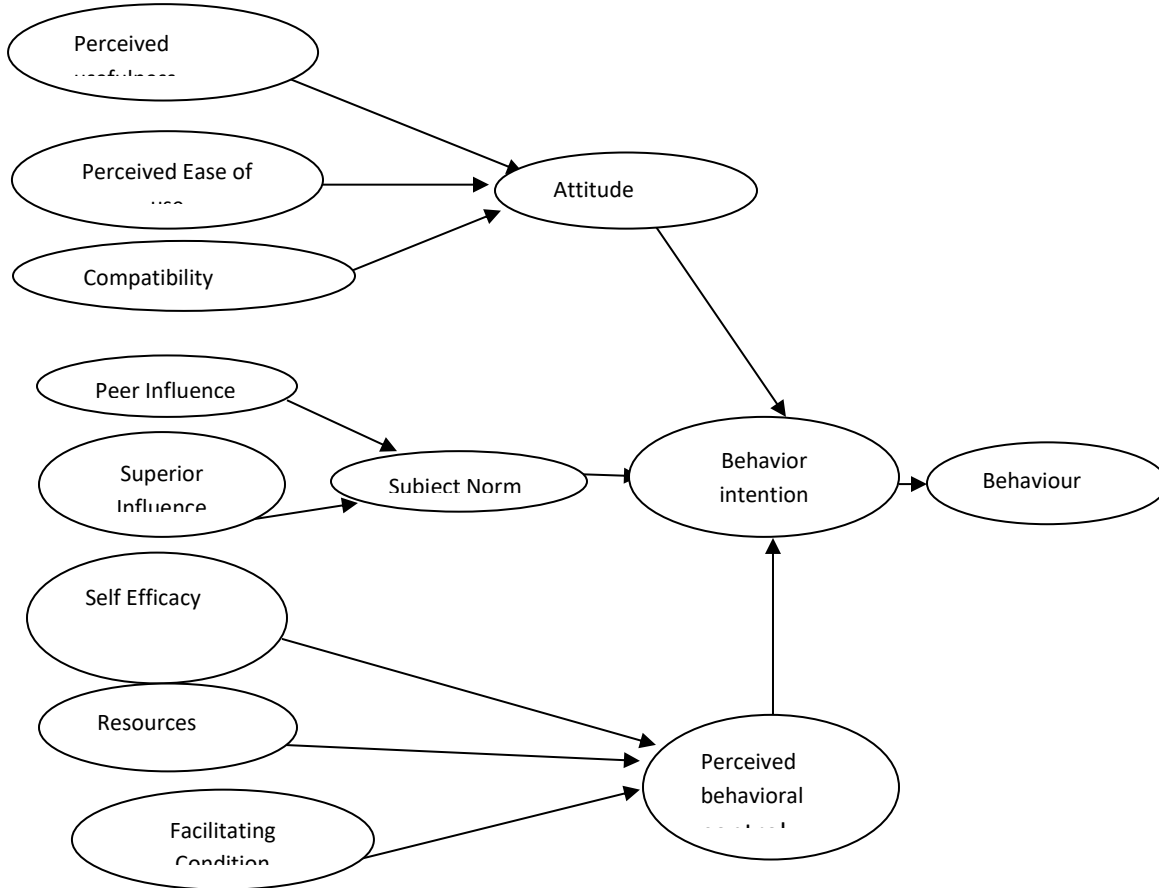


Figure 2.1: Student use of Web 2.0 Technologies in classroom- based on The Decomposed Theory of Planned Behavior (Ajzen, (1991) as cited by Hartshorne and Ajjan, (2008))

Conceptual Framework

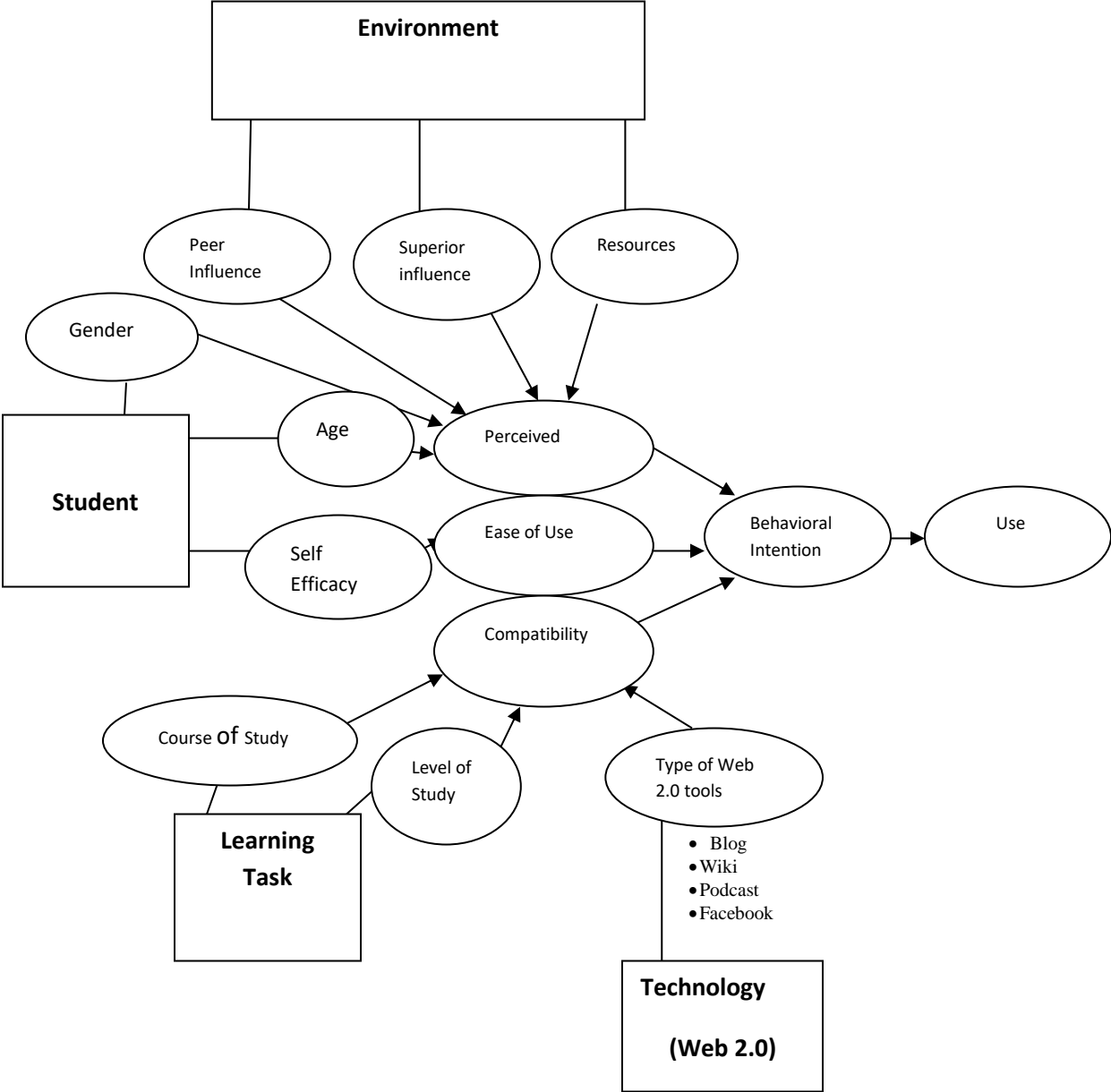


Figure 2.2: Use of Web 2.0 for Educational Purposes by Students of Higher Institution

Figure 2.2 is a conceptual framework that is design to serve as a guide which helps to understand the variables in this study. The framework (figure 2.2) has four entities (Student, Environment,

Learning task and Technology). Each entity contributes one or more variables that influence the following variables (usefulness, ease of use and compatibility). Peer influence, superior influence and resources are contributed by environment. Behavioral intention is influenced by usefulness, ease of use and compatibility. Use is influenced by behavioral intention.

Methodology

Research Design

Research design can be seen as a plan of study that provides the overall framework of collecting data (Verhonic and Seaman, 1978 as cited by Aina, 2002). In order to achieve the objectives of this study, a sample survey research design was adopted. This methodology was chosen because of its usefulness in determining the opinions, attitudes, feelings, beliefs, and behaviors of people (Aina, 2002). The survey was cross-sectional so that data collected can be used to make comparison between subgroups of respondents or look for relationships between variables.

Study Area

The study is limited to the students of the University of Ibadan. University of Ibadan is located in Ibadan which is the capital city of Oyo State, in the South-Western part of Nigeria. There are many higher institutions in the state, among which is the University of Ibadan which happens to be the foremost. The university is also the first in Nigeria. The university was founded in 1948 as University College, Ibadan, as a constituent of the University of London, United Kingdom. In 1962, the name of the university was changed to University of Ibadan and presently, it is administered under a statute of the federal government of Nigeria. The university has thirteen (13) faculties, three (3) centres, two (2) institutes and its vision is to be a world-class institution for academic excellence geared towards meeting societal needs. (University of Ibadan Pocket Statistics, 2009). The language of instruction is English.

Population of Study

The population that was used for this study is students of the University of Ibadan. It consists of all undergraduate and postgraduate students. The total population of the university is 19521 (University of Ibadan Pocket Statistics, 2009). The breakdown of the population of students is shown in the table 3.1.

TABLE 3.1: POPULATION OF THE STUDY

FACULTIES	NUMBER OF STUDENTS
Agriculture and Forestry	1932
Art	2535
Basic Medical Science	498
Clinical Sciences	1392
Dentistry	221
Education	2835
Law	549
Pharmacy	321
Public Health	434
Sciences	3154
Social Sciences	2896
Technology	1372
Veterinary Medicine	593
INSTITUTES	
Institute of African Studies	401
Institute of Education	165
CENTRES	
Africa Regional Centre for Information Science	125
Centre for Peace and Conflict Studies	45
Abadina Media Resources Centre	51
TOTAL	19521

Source: University of Ibadan Pocket Statistics, 2009.

3.5 Sampling Procedure

Since the generalization about the population depends on the information obtained from the sample, the sample was carefully selected. A sample is a small portion taken from a population to ensure that a valid study is achieved. The stratified random sampling was used. This technique was used because of the dissimilarities among the students in the different faculties and programmes (including undergraduate and postgraduate degrees). The stratified sampling was therefore based on faculty. The population was divided into strata based on faculty.

Step 1: The following faculties were purposively selected:

- (i) Arts (comprises of programmes that are non IT- related).
- (ii) Education (comprises of both IT and non IT- related programmes).
- (iii) Social Sciences (comprises of programmes that are non IT- related).
- (iv) Sciences (comprises of both IT and non IT- related programmes).
- (v) Technology (comprises of both IT and non IT- related programmes).
- (vi) Agriculture and Forestry (comprises of programmes that are non IT- related).
- (vii) Medical Sciences (comprises of programmes that are non IT- related).

In addition, the Africa regional centre for information science (ARCIS) was also selected purposively to represent the centres.

- (viii) ARCIS (comprises of programmes that are IT- related).

Step 2: The various departments under the selected faculties and centre were grouped into two (2), namely: Information, computer and information technology related programmes (IT) and non IT- related departments. Using purposive sampling technique, the following departments were chosen as the IT- related departments in the selected faculties and centre:

- (i) Faculty of Education – Library, Archival and Information Studies.
- (ii) Faculty of Sciences – Computer Science.
- (iii) Faculty of Technology – Electrical Engineering.
- (iv) Africa Regional Centre for Information Science.

Step 3: Students were randomly selected from both the IT and non IT- related departments from the faculties of Arts, Education, Social Sciences, Sciences, Technology, Agriculture, and Medical Sciences while from ARCIS, the students were systematically selected .

3.5.1 Sample Size

Fifty (50) students each were randomly selected from the chosen faculties. From the faculties of Education, Sciences, and Technology, 25 students each were selected from the IT- related departments and 25 students each were selected from the non IT- related departments. A total of 50 students were systematically selected from (ARCIS). From the sample, the following table shows the sample size of the study.

Table 3.2: Sample Size of the Study

Faculties and Institutes/Centers	No of Students Sampled From IT Related Departments	No of Students Sampled From Non IT Related Departments	Total
Arts	0	50	50
Education	25	25	50
Social Sciences	0	50	50
Sciences	25	25	50
Technology	25	25	50
Agriculture	0	50	50
Medical	0	50	50
Center (ARCIS)	50	0	50
Total	125	275	400

3.5.2 Selection Procedure

From the IT related departments, students in 300 and 400 levels were selected from Library, Archival and Information Studies, and Computer Science while 400 and 500 level students were selected from Electrical Engineering. Only 12 students in 300 level and 13 students in 400 levels and also 12 students in 400 level and 13 in 500 level were picked from each of these departments. The 300, 400 and 500 level students were chosen for this study since they are older students and tend to be more grounded in their field of study than their counterpart in 100 and 200 levels. In Africa Regional Centre for Information Science where the students are only Masters’ students, 25 students were selected from the first year and 25 from the second year.

From the non-IT related departments, students were chosen from 300 and 400 levels from the faculties of Arts, Education, Social Sciences, Agriculture and Forestry, and Sciences while students in 400 and 500 were chosen from the faculties of Technology and Medical Sciences. The older students in the non-IT related programmes were selected based on the same reason the students of IT related programmes were chosen.

No specific departments in the non-IT related departments were chosen since the researcher wanted to know what students in these departments know about Web 2.0.

Systematic random sampling technique was used at (ARCIS) and not in other departments, because of the researcher's involvement in the centre and also since the technique helps in addressing the issue of bias. A list was generated consisting of names of students of Africa Regional Centre for Information Science of year one and year two respectively. This list was arranged alphabetically using the students' surnames. The students were assigned numbers in the order "1" and "2". The first twenty-five students that were assigned the number "2" were selected from each list i.e. year one and year two.

Description of the Subjects

Four hundred (400) questionnaires were distributed among the selected faculties and centre. After collection and screening of the questionnaires, three hundred and eighty (380) were found useful. The subjects' include both male (164) and female (216) from the undergraduate and postgraduate programmes. The age groups are: below 20 (13%), 20-30 (77.9%), 31-40 (8.4%) and above 40 (0.3%).

Data Collection Instrument

The data collection instrument is the medium in which the opinion of students can be extracted based on the subject matter. In this study, the instrument that was used to collect data was a questionnaire. This instrument was chosen based on the fact that data collected can easily be analyzed.

Data Analysis

In order to get the necessary information needed to answer the research questions and test the hypotheses, the data collected were analyzed using SPSS (Statistical Package for the Social Sciences). The responses to the questions in the questionnaires that were administered were coded and entered into SPSS and then analyzed. Both descriptive and inferential statistics were used for analyses. Frequencies and cross tabulation were used for descriptive statistics, while T-test, ANOVA and linear regression analysis was carried out to test the hypotheses.

4.1 Overview of Questionnaire Distribution and Response Rate

Table 4.1 Questionnaire Distribution and Response Rate of IT-related departments

FACULTY	DEPARTMENT	NUMBER DISTRIBUTED	NUMBER RETURNED	NUMBER USEFUL	NUMBER NOT USEFUL
ARCIS	ARCIS	50	50	50	0
Technology	Electrical Engineering	25	25	25	0
Education	Library, Archival And Information Studies	25	25	25	0
Science	Computer Science	25	25	25	0
Total		125	125	125	0

Table 4.2 Questionnaire Distribution and Response Rate of Non-IT related departments

FACULTY	NUMBER DISTRIBUTED	NUMBER RETURNED	NUMBER USEFUL	NUMBER NOT USEFUL
Arts	50	47	45	2
Education	25	24	24	0
Social Science	50	44	40	4
Technology	25	25	25	0
Medical Science	50	50	50	0
Agriculture & Forestry	50	49	46	3
Science	25	25	25	0
Total	275	264	255	9

Table 4.1 and 4.2 shows that from the 400 copies of questionnaire that were distributed among the students, 389 copies were returned while 11 copies were not returned and only 380 was useful (125+255). From the IT related departments there was full recovery of the questionnaires. The entire analysis in this study was based on 380 respondents (N= 380).

Table 4.3 Reliability Statistics of Selected Variables in the Questionnaire

Variable	Cronbach's Alpha	No of Items
Perceived Usefulness	0.869	6
Influence	0.683	3
Ease of Use	0.866	4
Attitude	0.737	5
Barriers	0.850	5
Self Efficacy	0.848	4
Resource	0.361	4

Table 4.3 shows the results of the cronbach's alpha tests of the internal consistency of selected scales in the questionnaire. Cronbach's alpha for the scales are: perceived usefulness (0.869), influence (0.683), ease of use (0.866), attitude (0.737), barriers (0.85) self efficacy (0.848). Only resource (0.361) has an alpha of less than 0.500.

4 Hypotheses Testing

Hypothesis One

H0 – There is no significant relationship between the age of the students and the use of Web 2.0 for educational purposes.

Table4.29: One-Way ANOVA of the Age group and the Use of Web 2.0 for Educational Purposes

(a)

	Sum of Squares	Df	Mean Square	F	Sig. (P-value)
Between Groups	262.843	3	87.614	1.824	0.142
Within Groups	18062.115	376	48.038		

Age Group	Mean	N	Std. Deviation
Below 20	15.7451	51	7.56530
20-30	15.1689	296	6.83549
31-40	17.8125	32	6.76060
Above 40	23.0000	1	.

(b)

Total	15.4895	380	6.95347
-------	---------	-----	---------

Table 4.29 (a) reports on ANOVA. This assesses the overall significance between the dependent variable (age) and independent variable (use of Web 2.0 for educational purposes). While, table 4.29 (b) gives a descriptive statistics of the age groups.

Table 4.29(a) indicates that there is no significant relationship ($p\text{-value} > 0.05$) between age of students and use of Web 2.0 for educational purposes. Hence, the null hypothesis is accepted and the alternative is rejected. The age group (above 40) has the highest mean which influences the use of Web 2.0 for educational purposes, while the age group 20-30 have the lowest mean (15.1689). This can be seen in table 4.29(b).

Hypothesis Two

H₀- There is no significant relationship between the gender of the students and the use of Web 2.0 for educational purposes.

Table 4.30: T-test of Gender of students and Use of Web 2.0 for Educational Purposes

(a)

	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (P-value)
				Upper	Lower			
				Pair 1 Gender – use of Web 2.0	-13.92105			

(b)

Gender	Mean	N	Std. Deviation
Male	16.5427	164	6.54794
Female	14.6898	216	7.15809
Total	15.4895	380	6.95347

Table 4.30(a) and (b) provide data on the significance and descriptive statistics respectively of the independent and dependent variables. Table 4.30(a) shows that there is a significant

relationship (p-value <0.05) between gender of students and use of Web 2.0 for educational purposes. Hence, the null hypothesis is rejected and the alternative is accepted. The male students have the highest mean in the use of Web 2.0 for educational purposes as shown in table 4.30(b).

Hypothesis Three

H0- There is no significant relationship between the course of study of the students and the use of Web 2.0 for educational purposes.

Table 4.31: One-Way ANOVA of Course of Study and Use of Web 2.0 for Educational Purposes

(a)

	Sum of Squares	Df	Mean Square	F	Sig. (p-value)
Between Groups	1803.695	10	180.370	4.029	0.000
Within Groups	16521.263	369	44.773		
Total	18324.958	379			

(b)

Course of Study	Mean	N	Std. Deviation
Arts	15.5217	46	6.94659
Non-IT related Education	15.0833	24	8.28260
Lib, Arch. and Inf. Studies	15.6000	25	6.37050
Social Science	16.5000	40	6.43707
Non- IT related Science	15.4000	25	6.50000
Computer Science	18.0800	25	5.31445
Non-IT related Technology	12.7600	25	4.80694
Electrical Engineering	17.7200	25	6.64279
Agriculture and Forestry	11.4444	45	5.35790
Medical Science	14.3400	50	7.20717
ARCIS	18.5800	50	7.91302
Total	15.4895	380	6.95347

Table 4.31 (a) reports on ANOVA. This assesses the overall significance between the dependent variable (course of study) and independent variable (use of Web 2.0 for educational purposes). While, table 4.31 (b) gives a descriptive statistics of the course of study.

Table 4.31(a) shows that there is a significant relationship (p-value < 0.05) between course of study of students and the use of Web 2.0 for educational purposes. Hence, the null hypothesis is rejected and the alternative is accepted. This is as a result of the contribution from ARCIS as the course of study with the highest mean (18.5800) followed by computer science (18.0800), while agriculture and forestry, and non-IT related technology had the lowest mean of 11.4444 and 12.7600 respectively.

Hypothesis Four

H0-There is no significant relationship between the Level of study of the students and the use of Web 2.0 for educational purposes.

Table 4.32: One-Way ANOVA of Level of study and Use of Web 2.0 for Educational Purposes

(a)

	Sum of Squares	Df	Mean Square	F	Sig. (p-value)
Between Groups	982.673	4	245.668	5.312	0.000
Within Groups	17342.285	375	46.246		
Total	18324.958	379			

(b)

Level	Mean	N	Std. Deviation
300	15.0686	102	7.19772
400	14.7292	192	6.58887
500	16.4444	36	5.58797
700(yr 1)	15.9600	25	8.70096
700(yr 2)	21.2000	25	6.15088
Total	15.4895	380	6.95347

Table 4.32 (a) reports on ANOVA. This assesses the overall significance between the dependent variable (level of study) and independent variable (use of Web 2.0 for educational purposes). While, table 4.32 (b) gives a descriptive statistics of the level of study.

Table 4.32(a) reveals that there is a significant relationship (p-value < 0.05) between the level of study of the students and the use of Web 2.0 for educational purposes. Therefore, the null hypothesis is rejected and the alternative hypothesis is accepted. The 700 level (year 2) had the highest mean (21.2000) and it contributed to the relationship between the level of study and

the use of Web 2.0 for educational purposes as it is shown in table 4.32(b). The 400 level had the lowest mean of 14.7292.

Hypothesis Five

H0- There is no significant relationship between self efficacy of students and the use of Web 2.0 for educational purposes.

Table 4.33: Simple Linear Regression Analysis between Self efficacy and the Use of Web 2.0 for Educational Purposes

(a)

Model		Sum of Squares	df	Mean Square	F	Sig. (p-value)
1	Regression	1157.641	1	1157.641	25.490	0.000
	Residual	17167.317	378	45.416		
	Total	18324.958	379			

(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.251	.063	.061	6.73915

Predictors: (Constant), self efficacy

Table 4.33 (a) reports on ANOVA. This assesses the overall significance between the dependent variable (self efficacy) and independent variable (use of Web 2.0 for educational purposes). While, table 4.33 (b) gives a summary of the model.

Table 4.33(a) shows that there is a significant relationship (p-value <0.05) between self efficacy of students and the use of Web 2.0 for educational purposes. Therefore, the null hypothesis is rejected and the alternative is accepted. While in table 4.33(b) the adjusted R² indicates that self efficacy accounts for 61% of variance in the use of Web 2.0 for educational purposes.

Hypothesis Six

H0- There is no significant relationship between the availability of resources and the use of Web 2.0 for educational purposes.

Table 4.34: Simple Linear Regression Analysis between Availability of Resources and the Use of Web 2.0 for Educational Purposes

(a)

Model		Sum of Squares	df	Mean Square	F	Sig. (p-value)
1	Regression	719.146	1	719.146	15.440	0.000
	Residual	17605.811	378	46.576		
	Total	18324.958	379			

(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.198	.039	.037	6.82468

Predictors: (Constant), Resources

Table 4.33 (a) reports on ANOVA. This assesses the overall significance between the dependent variable (resources) and independent variable (use of Web 2.0 for educational purposes). While, table 4.33 (b) gives a summary of the model.

Table 4.34(a) reveals that there is a significant relationship (p -value < 0.05) between the available resources and the use of Web 2.0 for educational purposes. Hence, the null hypothesis is rejected and the alternative is accepted. Table 4.34(b) reveals that adjusted R^2 of available resources accounts 37% of variance in the use of Web 2.0 tools for educational purposes.

Hypothesis Seven

H₀- There is no significant relationship between the influence from peers on the students and the use of Web 2.0 for educational purposes.

Table 4.35: Simple Linear Regression Analysis between Influence from Peers on Students and the use of Web 2.0 for Educational Purposes

(a)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	547.511	1	547.511	11.642	0.001
	Residual	17777.446	378	47.030		

Total	18324.958	379			
-------	-----------	-----	--	--	--

(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.173	.030	.027	6.85786

Predictors: (Constant), Peers influence

Table 4.35 (a) reports on ANOVA. This assesses the overall significance between the dependent variable (peer influence) and independent variable (use of Web 2.0 for educational purposes). While, table 4.35 (b) gives a summary of the model.

Table 4.35(a) shows that there is no significant relationship ($p\text{-value} > 0.05$) between the influence from peers on students and the use of Web 2.0 for educational purposes. Therefore, the null hypothesis is rejected and the alternative is accepted. The adjusted R^2 is low since it accounts only 27% of variance.

Hypothesis Eight

H_0 - There is no significant relationship between the influence from lecturers on the students and the use of Web 2.0 for educational purposes.

Table 4.36: Simple Linear Regression Analysis between the Influence from Lecturers on Students and the Use of Web 2.0 for Educational Purposes

(a)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	984.478	1	984.478	21.460	0.000
	Residual	17340.480	378	45.874		
	Total	18324.958	379			

(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.232	.054	.051	6.77306

Predictors: (Constant), lecturer influence

Table 4.36 (a) reports on ANOVA. This assesses the overall significance between the dependent variable (lecturer influence) and independent variable (use of Web 2.0 for educational purposes). While, table 4.36 (b) gives a summary of the model.

Table 4.36(a) indicates that there is a significant relationship (p-value <0.05) between the influence from the lecturers on the students and the use of Web 2.0 for educational purposes. Hence, the null hypothesis is rejected and the alternative is accepted. In table 4.36(b) the adjusted R² indicates that influence from lecturer accounts for 51% of variance in the use of Web 2.0 for educational purposes. This means that if lecturers blend Web 2.0 to instructional methodology there is the possibility of an increase in the use of Web 2.0 for educational purposes.

Hypothesis Nine

H0- There is no significant relationship between the compatibility of learning tasks of students and the use of Web 2.0 for educational purposes.

Table 4.37: Simple Linear Regression Analysis between the Compatibility of Learning tasks and the Use of Web 2.0 for Educational Purposes

(a)

Model		Sum of Squares	df	Mean Square	F	Sig. (p-value)
1	Regression	2944.672	1	2944.672	72.371	0.000
	Residual	15380.286	378	40.689		
	Total	18324.958	379			

(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.401	.161	.158	6.37876

Predictors: (Constant), Compatibility with learning tasks

Table 4.37 (a) reports on ANOVA. This assesses the overall significance between the dependent variable (compatibility with learning tasks) and independent variable (use of Web 2.0 for educational purposes). While, table 4.37 (b) gives a summary of the model.

Table 4.37(a) reveals that there is a significant relationship (p-value <0.05) between the compatibility of learning tasks of students and the use of Web 2.0 for educational purposes. Therefore, the null hypothesis is rejected. Although in table 4.37(b), the adjusted R² of compatibility of learning tasks is 15.8%.

Hypothesis Ten

H0- There is no significant relationship between perceived usefulness and the use of Web 2.0 for educational purposes.

Table 4.38: Simple Linear Regression Analysis between Perceived Usefulness and the Use of Web 2.0 for Educational Purposes

(a)

Model		Sum of Squares	df	Mean Square	F	Sig. (p-value)
1	Regression	2979.028	1	2979.028	73.379	0.000
	Residual	15345.930	378	40.598		
	Total	18324.958	379			

(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.403(a)	.163	.160	6.37163

Predictors: (Constant), perceived usefulness

Table 4.38 (a) reports on ANOVA. This assesses the overall significance between the dependent variable (perceived usefulness) and independent variable (use of Web 2.0 for educational purposes). While, table 4.38 (b) gives a summary of the model.

Table 4.38(a) indicates that there is a significant relationship (p-value <0.05) between perceived usefulness and the use of Web 2.0 for educational purposes. Hence, the null hypothesis is rejected and the alternative hypothesis is accepted. Perceived usefulness accounts for 16% in the use of Web 2.0 for educational purposes as shown in table 4.38(b).

Hypothesis Eleven

H0- There is no significant relationship between ease of use and the use of Web 2.0 for educational purposes.

Table 4.39: Simple Linear Regression Analysis between Ease of use and the Use of Web 2.0 for Educational Purposes

(a)

Model		Sum of Squares	df	Mean Square	F	Sig. (p-value)
1	Regression	387.716	1	387.716	8.171	0.004
	Residual	17937.242	378	47.453		
	Total	18324.958	379			

(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.145(a)	.021	.019	6.88862

Predictors: (Constant), ease of use

Table 4.39 (a) reports on ANOVA. This assesses the overall significance between the dependent variable (ease of use) and independent variable (use of Web 2.0 for educational purposes). While, table 4.39 (b) gives a summary of the model.

Table 4.39(a) shows that there is no significant relationship ($p\text{-value} > 0.05$) between ease of use and the use of Web 2.0 for educational purposes. Therefore, the null hypothesis is accepted. The adjusted R^2 in table 4.39(b) shows that ease of use accounts 19% of variance in the use of Web 2.0 for educational purposes.

Hypothesis Twelve

There is no significant relationship between self-efficacy of students, availability of resources in the learning environment, peer influence, lecturer influence, compatibility of learning task, perceived usefulness of Web 2.0, and ease of use of Web 2.0 on use of Web 2.0 for educational purposes.

Table 4.40: Multiple Regression Analysis between Self-Efficacy of Students, Availability of Resources in the Learning Environment, Peer Influence, Lecturer Influence, Compatibility of Learning Task, Perceived Usefulness of Web 2.0 and Ease of Use of Web 2.0 on Use of Web 2.0 for Educational Purposes

(a)

Model		Sum of Squares	df	Mean Square	F	Sig. (p-value)
1	Regression	4888.818	7	698.403	19.336	0.000
	Residual	13436.140	372	36.119		
	Total	18324.958	379			

(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.517	.267	.253	6.00988

a Predictors: (Constant), Self-Efficacy of Students, Availability of Resources in the Learning Environment, Peer Influence, Lecturer Influence, Compatibility of Learning Task, Perceived Usefulness, and Ease of Use

(c)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	30.390	1.812		16.767	.000
	Self efficacy	-.710	.154	-.219	-4.601	.000
	Resources	-.322	.152	-.099	-2.114	.035
	Peer influence	-.139	.345	-.022	-.403	.687
	Lecturer influence	-.403	.424	-.060	-.951	.342

Compatibility of learning tasks	-1.621	.428	-.225	-3.787	.000
Perceived usefulness	-.338	.097	-.212	-3.480	.001
Ease of use	.018	.114	.009	.159	.874

Using the enter method, table 4.40 a, b and c emerged. Table 4.40 (a) reports on ANOVA. This assesses the overall significance between the dependent variables and independent variable (use of Web 2.0 for educational purposes), table 4.40 (b) gives a summary of the model, while table 4.40 (c) which is the coefficient table gives a measure of the contribution of each independent variables to the model.

Table 4.40(a) shows that there is a significant relationship ($p\text{-value} < 0.05$) between self-efficacy of students, availability of resources in the learning environment, peer influence, lecturer influence, compatibility of learning task, perceived usefulness of Web 2.0, and ease of use of Web 2.0 on use of Web 2.0 for educational purposes. Hence, the null hypothesis is rejected and the alternative is accepted. The independent variables account 25.3% of variance on the use of Web 2.0 for educational purposes as shown in table 4.40(b). The variable compatibility of learning tasks had the strongest impact (Beta= -0.225) on the dependent variable in this model although, it is a negative impact. The impact of self efficacy and perceived usefulness on the use of Web 2.0 for educational purposes is close since the Beta of both variables is -0.219 and -0.212 respectively. Ease of use had the lowest impact (Beta= 0.009) on the dependent variable.

4.5 Discussion of Findings

In this section, some of the findings from the study were discussed in line with the research questions that guided the study.

Research Question 1: Do students of the University of Ibadan use Web 2.0?

The study reveals that majority of the students are already familiar with the term Web 2.0 of which they got to know about from the Internet and are using these tools. It is not surprising that the students are already using Web 2.0 tools since they belong to the “Net Generation”; digital technologies have been part of their formative years and which they use regularly (Kennedy et al, 2007). Also, the students have the necessary skills needed to use Web 2.0 tools. This point is supported by the findings of this study that most of the students can compose and send e-mails, chat online, upload and download pictures and documents on the Internet and also can search for relevant materials online.

Research Question 2: What Purposes do Students of the University of Ibadan Use Web 2.0 for?
Web 2.0 tools serve as a channel for communication between people at different location.

The purposes that were considered in this study are: use as a means for sending and receiving materials online, engaging in class work (such as accessing lecturer's course note, submission of class work, using resources on these tools), collaborative learning, communicating with lecturers and course mates, communicating with friends socially and for entertainment.

As a means for sending and receiving materials online, more than half of the students noted that they have been sent materials through Facebook. This fact is in line with the level at which the students download recorded educational materials on their computers, PDAs, mobile phones and iPods. Downloading of recorded materials on these tools is an indication that the students are utilizing the potentials of Web 2.0 since the ability to download recorded information is one of the features of these tools. Though, the level of uploading educational materials online by the students is relatively low. This also, support the findings of Kennedy et al (2007) where majority of the students surveyed have never produced a podcast, contributed to wiki or kept any blogs

The use of Web 2.0 tools to engage in class work is relatively below average. For example, 66% of the respondents do not use blog, 75.2 % do not use podcast and 57.8% do not use Facebook for class work. Although, 69.5% use wiki to engage in class work, what this actually means is that they use the information on wiki for class work since 82.6% said they have used Wikipedia resources. The low rate of using blog by the respondents of this study can be compared with the finding of Hartshorne and Ajjan (2008) where only 21% of the students believe that the use of blog will improve their learning.

The students also use Web 2.0 tools for collaborative learning. Even though, the percentage of students that participate in this form of learning is low, it is impressive to know that the students participate in online sharing of resources and knowledge.

In the case of communication, the students prefer to use Facebook as a means of communicating with their course mates. It is obvious that the students are comfortable with social network as a means for interaction which is not surprising since in Hartshorne and Ajjan (2008) finding, the students believe that the tool will increase student-student interaction. Although, the interaction of student-student in the form of Web-based communication is high, lecturer-student interaction via Web 2.0 tools is low. For those that communicate with their lecturers, 31.6% use Facebook while 18.7% use blog. The students' preference in using Facebook as a channel for communicating with their course mates is an indication that there is the possibility of them contacting their course mates about information regarding class assignments, projects and examinations as Munoz and Towner (2009) noted that Facebook can be used for educational purposes in this regard.

Communicating socially with friends, podcast is not mostly used but majority of the students use Facebook to keep in touch with friends thereby maintaining an online clique. Blog is also use for communicating socially but only a few.

For entertainment, the use of blog and wiki is very low while podcast and Facebook are mostly used. The use of Facebook and podcast gives the students access to a wide range of videos, songs, pictures and so on. Unexpectedly, blog recorded a low number of users in terms of its usage for entertainments since most entertainment news online are usually on blog with the aim of getting feedbacks from the readers.

In general, those in IT-related departments such as computer science, library, archival and information studies, and ARCIS use Web 2.0 tools more. Among these departments, the students of ARCIS use these tools blog most especially to engage in class work and also communicate with lecturers

Research Question 3: How often do the students use Web 2.0 for Educational Purposes?

In this study, the rate of using of Web 2.0 for educational purposes was measured on the scale of every day, twice a week, once a week and once every month. In the case of downloading recorded educational materials few students use Web 2.0 tools everyday/ twice a week while a fair number of students use these tools once a week/ once every month. Accessing lecturer's course note is mostly done weekly/monthly. The rate of accessing lecturer's course note fully depends on the rate at which the course notes are made available by the lecturers for the students on these tools.

Communicating with lecturers also take place generally on weekly/monthly basis while with course mates it is on daily to twice a week. It is clear that the lecturers are yet to fully utilize the potentials of Web 2.0 tools unlike the students that have used these tools to improve interaction among their fellow students. It was discovered in this study that communicating socially with friends such as accessing Facebook Website is frequently done than for educational purposes.

Research Question 4: How Useful and Relevant are Web 2.0 technologies to the Students?

A good number of the students agreed that Web 2.0 tools have improved their interaction with course mates, improved their academic performance and also their learning in courses. However, the students are not contented with the level of interaction between them and their lecturers. It is certain that only few lecturers have taken up Web 2.0 as means of interaction between them and their students. This means either the lecturers are not aware of the potentials of Web 2.0 in improving their instruction methods or that they (lecturers) cannot use these tools since most of them are "Digital immigrants" and do not belong to the "Net Generation" (Kennedy et al, 2007) and adopting these tools will mean acquiring the necessary skills which are needed to use them. Another reason as identified by Cloete et al (2009) might be that lecturers want to maintain the lecturer-student and the level of respect. To address this issue of low interaction between lecturer and student, Munoz and Towner (2009) noted that lecturers can post topic on these tools to solicit student discussion.

Research Question 5: Factors that influence students on the usage of Web 2.0?

In this study, the major variables that were considered as the factors that may likely influence the use of Web 2.0 by students are influence from peers, lecturers and compatibility of their learning tasks with Web 2.0 tools. Although, the respondents disagreed that influence from peers and lecturers affect their usage of Web 2.0, it was statistically proven that there is a significant relationship between influence from lecturers on the students and their use of Web 2.0 for education purposes as it was also reported in the study of Hartshorne and Ajjan (2008). More than half of the students ascertain that they use Web 2.0 because it is compatible with their learning tasks and in Hartshorne and Ajjan (2008) research work, it was noted that Compatibility of Web 2.0 is one of the key determinants to both student and faculty (lecturer) attitudes toward the use of Web 2.0.

Self efficacy and available resources are likely to influence behavioral intention and usage of Web 2.0 by students (Hartshorne and Ajjan, 2008). In this study, there is a significant relationship between self efficacy and available resources and the use of Web 2.0 for educational purposes. Though, self efficacy accounts more of variance than available resources.

Generally, compatibility of learning tasks, self efficacy and perceived usefulness have a fairly negative influence (Beta= -0.225, -0.219 and -0.212 respectively) on the use of Web 2.0 for education purposes than other variables.

Research Question 6: What Applications/Service(s) of Web 2.0 is mostly used by students?

In terms of familiarity and use, Facebook which is a social network is mostly used by the students. But the level of usage of these tools differs when evaluated based on its usage for various purposes. To engage in class work, Wiki is mostly used. For communication between course mates and lecturers Facebook is used while for entertainment Facebook and podcast are mostly used.

Research Question 7: Are the students aware of the benefits of using Web 2.0 to perform their Educational Tasks?

The students are aware of the benefits and the potentials of these tools to improve their learning tasks since it is the compatibility of their learning task that influences the usage of these tools for educational purposes. Also, the students believe that with the use of Web 2.0 interaction with course mates, academic performance and learning in courses can be improved. This finding can be compare to the result of Hartshorne and Ajjan (2008) were the students indentified some Web 2.0 tools such as blog and social network which they believe will improve their interaction with faculty (lecturer) and course mates respectively.

Research Question 8: Do the Students encounter problems while using these technologies?

It is obvious that Internet facilities are available on campus but the students are not given free access. The major barrier to the use of Web 2.0 tools is the availability of free Internet connectivity facilities. A significant number of students lack free Internet facilities on campus

and also do not have personal modem to use on their personal computers and laptops. No personal access to the Internet is one major factor that affects students' usage of the Internet (Awolaye et al 2008). 86% of the respondents use commercial cyber café on campus while 81% use commercial cyber café off campus. This is close the finding of Awolaye et al (2008) in which 90.8% of students access the Internet from cybercafés. From these findings, it can be deducted that with the introduction of 3G Internet modem by telecommunication companies, the numbers of student that access the Internet from cybercafés have dropped. However, only a few students have these modems. This means that majority of the students cannot afford it.

Hartshorne and Ajjan (2008) identified resources such as time and technology as factors that may affect the use of Web 2.0 tools. Although, time is not a barrier since the students noted that they do not lack time to use Web 2.0 but rather and they cannot afford to stay online for too long. This can be classified as financial constraint which is also one of the factors that Awolaye et al (2008) identified.

These factors have direct impact on the frequency of use of Web 2.0 for educational purposes. At this age of information technology, access to free Internet connectivity should not be a barrier to its usage most especially in institutes where research works are been carried out. The IT-related departments are expected to set the pace for other departments to follow. It is expected that the students should be given access in order to bridge the gap between them and those in other academic communities.

Research Question 9- How reliable is the Information or Service obtained using Web 2.0?

A lot of controversies have been raised about the quality of information on Web 2.0 tools. Scholars like Ramos and Piper (2006) noted that Web 2.0 tools (blog and wiki) provide rich content on the contrary; Brabazon (2006) believes that through the proliferations of these tools a large quantity of low quality materials have emerged. To elicit the views of the respondents on this issues, the variables "information on Web 2.0 tools is reliable", "information on Web 2.0 tools is useful" and "Web 2.0 provide useful educational information" was used. 87.1% of the respondents agreed that information on Web 2.0 is useful, 81.3% agreed that the information on Web 2.0 tools is reliable while 83.5% believe that Web 2.0 provide useful educational information. To validate this fact, linear regression was carried out on the reliability and usefulness of information on Web 2.0 tools and the use of these tools for educational purposes, the result (p -value < 0.05) shows that there is a significant relationship these variables. Furthermore, the ability to search for relevant information is one of the information literacy skills that is required for evaluation of information on Web 2.0 tools and majority of the students can search for relevant materials online, it is certain that these students find the information on these tools useful. The reliability of information determines the usage of such information. 82.6% of the students that have used Wikipedia resources validate the reliability of information on Wikis.

Conclusion

This study entailed the survey of the use of Web 2.0 for educational purposes by the students of the University of Ibadan, Nigeria. It aimed at finding out if the students of the University of

Ibadan use Web 2.0, and the purposes for which they use Web 2.0. Identifying factors that may likely influence the attitude of students toward the use of Web 2.0 and constraints of using Web 2.0 were also part of the objectives of the study. These objectives served as a guide in developing the study's research questions, hypotheses and data collection instruments.

In the course of the study, relevant literatures were explored and discussed from works relating to the study with special focus on blog, wiki, podcast and social networks (Facebook) as Web 2.0 tools.

The sample of the study constituted of students from seven faculties and one center which were purposively selected. The sample was grouped into IT-related and non-IT related departments. The study used a questionnaire as its instrument of data collection. Four hundred copies of the questionnaire were distributed among the sample, out of which 380 were returned and found usable. Statistical Package for Social Sciences (SPSS) was used to analyze the collected data. Statistical methods used for the analyses of the data were frequency distribution, cross tabulation, T-test, One-way ANOVA and Regression.

From the study it was revealed that majority of the students of the University of Ibadan are already familiar with the term "Web 2.0" and are using it for educational purposes. The students indicated that the Internet was their source of information about the term "Web 2.0". Also, course mates/ friends, lecturers and newspapers/magazines were sources of information. In exploring the group of students that use Web 2.0 for education purposes, it was discovered that the students in higher levels use Web 2.0 tools more than their counterparts in lower levels and majority of these students are in IT-related departments like computer science, library, archival and information studies, and the Africa Regional Center for Information Science.

There are many Web 2.0 tools but this study focused on blog, wiki, podcast and social network (Facebook). Ascertaining the tool among these which the students frequently used, it was discovered that the purpose determine the tool. For interaction, the students use Facebook, while to engage in class work, wiki and blog are used. For entertainment, podcast and Facebook are used. In general, Facebook is used most often by the students.

Investigating the major purposes for which the students use Web 2.0 tools, the following purposes were suggested to the students: communicating with courses mates and lecturers, engaging in class work, collaborative learning, submitting class work, as a channel for receiving recorded educational materials, accessing lecturers' course notes, and for entertainment.

In terms of frequency of use of Web 2.0, it was found out in this study that frequency of use of Web 2.0 depends on the purposes for which the tools are used. Downloading of recorded materials on these tools, communicating with lecturers, accessing lecturers' course notes and submitting of class work are done once in a week or in a month. Communicating with course mates and friends is done at least twice a week.

Addressing the issue of the quality of information on Web 2.0 tools, it was discovered in this study that the students find the information on these tools useful and reliable and also believe in the potentials of these tools to improve their learning in courses.

The students identified lack of free Internet connectivity facilities as barrier to use of Web 2.0. Although the students have access to the Internet from commercial cybercafés both on and off campus, they cannot afford to stay too long online.

References

Aborisade, P. (2009). Investigating a Nigerian XXL-Cohort Wiki-Learning Observation, Feedback and Reflection. *Electronic journal of e-learning*. (Internet) 7(3). <http://www.ejel.org/volume-7-13/Aborisede.pdf>. 14th January,2010.

Ajzen, I. (1991). The Theory of Planned Behavior. In Hartshorne, R and Ajjan, H. (2009). *Examining Student Decisions to Adopt Web 2.0 Technologies:Theory and EmpiricalTest*(Internet).[www.HartshorneR\(2009\)www.springerlink.com/index/565114M2062T6737.pdf](http://www.HartshorneR(2009)www.springerlink.com/index/565114M2062T6737.pdf) 2008/2008_ proceedings_ 803 _Web2pdf.12th December 2009.

Ala-Mutka, K., Bacigalupo, M., Kluzer, S., Pascu, C. and Punie, Y. (2009). *Learning 2.0: The impact of Web 2.0 innovation on education and training in Europe* (Internet). <http://ftp.jrc.es/EURdoc/JRC55629.pdf> . 22nd February 2010.

Anderson, P. (2007). *What is Web 2.0? Ideas, Technologies and Implication for Education* (Internet). www.jisc.ac.uk/media/documents/techwatch/+sw07016.pdf. 12th December, 2009.

Anderson,P. (2007). What is Web 2.0? Ideas, Technologies and Implication for Education (Internet). www.jisc.ac.uk/media/documents/techwatch/+sw07016.pdf In Awodele, O, Idowu,S, and Anjorin, O (2009). University Enhancement System Using a Social Networking Approach: Extending E-learning. *Informing science and information technology*. (Internet) 6 269-283. <http://isit.org/vol6/IISITv6p269-283Awodele600pdf>. 12th December, 2009.

Ania, L.O. (2002). *Research In Information Sciences: An African Perspective*. Ibadan: Stirling-Horden Publishers, p18.

Armstrong, J. and Franklin, T. (2008). A Review of Current and Developing International Practice in the Use of Social networking (Web 2.0) In higher Education. (Internet)

<http://www.franklinconsulting.co.uk/LinkedDocuments/the%20use%20of%20social%20networking%20in%20HE.pdf#page=113>. 17th February 2010.

Awodele, O, Idowu, S, and Anjorin, O. (2009). University enhancement System Using a Social Networking Approach: Extending E-learning. *Informing science and information technology*. (Internet) 6 269-283. <http://isit.org/vol6/IIsSITv6p269-283Awodele600pdf>. 12th December, 2009.

Awolaye, M, Iyanbola, O and Oladipo, O.F. (2008). Adoption Assessment of Internet Usage amongst Undergraduates in Nigeria Universities – A case Study Approach. *Journal of technology Management and Innovation*. (Internet) 3(1), pp.84-89 <http://ftp.jrc.es/EURdoc/JRC55629.pdf>. 15th January 2010

Bruce, C. (2002). Information Literacy as a Catalyst for Educational Change: A Background White Paper Prepared for UNESCO, the U.S National Commission on Libraries and Information Science, and the National Forum on Information Literacy, for Use at the Information Literacy Meeting of Experts, Prague, the Czech Republic. (Internet) <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.113.3967&rep=rep1&type=pdf> . 19th February 2010.

Bundy, A. (2004). *Australian and New Zealand information Literacy Framework: Principles, Standards and Practice*. (Internet). <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.98.3489&rep=rep1&type=pdf>. 19th February 2010.

Cruz, S.C. and Carvalho, A. A. (2006). Weblog Como Complement ao. In: Simoes, L and Gouveia, L.B (2008). *Web 2.0 and Higher Education: Pedagogical Complication* (Internet) <http://www.uni-rmus.net>. 12th December, 2009.

Curtis, D. and Lawson, M. (2001). Exploring Collaborative Online Learning. In: Zorko, V. (2009). Factors Affecting the way Student Collaborate in a Wiki for English Language Learning. *Australasian journal of Educational Technology*. (Internet). 25(5) 645-665. <http://www.ascilite.org.au/ajet/ajet25/zorko.pdf>. 12th December 2009.

Dede, C. (2008). A Seismic Shift in Epistemology. In: C, Cummings, J, Fisher, T, Harrison, C, Logan, K, Luckin, R, Oliver, M and Sharples, M. (2008). *Web 2.0 Technologies for Learning: The Current Landscape, Opportunities, Challenges and Tensions* (Internet). www.becta.org.uk/upload-dir/...Web2_technologies_learning.pdf 5th February 2010.

Dede, C. (2008). A Seismic Shift in Epistemology. In: Greenhow, C, Robelia, B, and Hughes, J.E (2009). Learning, Teaching, and Scholarship in a Digital Age! Web 2.0 and Classroom Research: What Path Should be Taken Now? *Educational Researcher* (Internet). 38(246) pp. 246-259. <http://edr.sagepub.com/cgi/content/abstract3812/246>. 2nd February 2010.

Ebersole, E. (2005). On their Own: Students' Academic Use of the Commercialized Web. *Library Trends*. (Internet) 53(4) pp.530-538. <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.83.9498&rep=rep1&type=pdf> 10th February 2010.

Elgort, I., Smith, A.G. and Toland, J. (2008). Is Wiki an Effective Platform for Group Course Work? *Australasian Journal of Educational Technology*. (Internet) 24(2) pp 195-210. <http://www.ascilite.org.au/ajet24/elgort.pdf>. 12th December 2009.

Ellison, N.B. (2007). Facebook Use on Campus: A Social Capital Perspective on Social Network Sites. Presentation at the ECAR symposium, Boca Raton , FL December 5-7, 2007. In: Cloete, S., Villiers, C. and Roodt, S. (2009). *Facebook as an Academic tool for ICT Lecturers* (Internet). <http://www.oecd.org/dataoecd/4/55/43977462.pdf> 5th February, 2010.

Employment Skills Survey (2006). December 2006. In: Elgort, I, Smith, A.G and Toland, J. (2008). Is Wiki an Effective Platform for Group Course Work? *Australasian Journal of Educational Technology*. 24(2) pp 195-210. <http://www.asclite.org.au/ajet24/elgot.pdf>. 12th December 2009.

Fountain (2005) .Wiki pedagogy. In: Usluel,Y and Mazman, S. (2009) *Adoption of Web 2.0 Tools in Distance Education* (Internet) www.insanbilimleri.com/ojs/index.php/uib/article/view/file/756/397. 12th December 2009.

Franklin, T. & Van Harmelen, M. 2007). *Web 2.0 for Content for Learning and Teaching in Higher Education*. (Internet). www.jisc.ac.uk/media/documents/.../Web2-content-learning_and_teaching.pdf. 12th December 2009.

Garrison, D. and Anderson, T. (2003). E-learning in the 21st Century: A Framework for Research and Practice. In: Zorko, V (2009). Factors Affecting the Way Student Collaborate in a Wiki for English Language Learning. *Australasian Journal of Educational Technology*. (Internet) 24(2) pp.195-210. <http://www.ascilite.org.au/ajet24/elgort.pdf>. 12th December 2009.

Godwin, R. (2003). Emerging Technologies: Blogs and Wikis Environments for Online Collaboration .In: Usluel,Y and Mazman,S . (2009) *Adoption of Web 2.0 Tools in Distance Education* (Internet) [www.insanbilimleri.com/ojs/index.php/uib/article_view_file/756/397](http://www.insanbilimleri.com/ojs/index.php/uib/article/view/file/756/397). 12th December,2009.

Godwin-Jones, R. (2003). Blogs and Wikis: Environment for Online Collaboration. In: Zorko, V (2009). Factors Affecting the Way Student Collaborate in a Wiki for English Language Learning. *Australasian Journal of Educational Technology*. (Internet). 24(2) pp.195-210. <http://www.ascilite.org.au/ajet24/elgort.pdf>. 12th December 2009.

Gregory, S and Smith, H. (2008) Virtual Worlds Promote a Higher Level of Collaboration, Engagement, and Deeper thinking for Students than Traditional Web 2.0 In: *Proceedings of the 3rd Annual Postgraduate Research Conference*. Held in University of England. Faculty of

Professor: (Internet). pp82-92.
http://www.virtualclassroom.info_papers_virtual%20%worlds.pdf. 2nd February 2010.

Grosbeck, G. (2009). To Use Or Not To Use Web 2.0 In Higher Education? *Social and Behavioral Science*. (Internet). pp. 478-482.
www.Webpages.csus.edu/sac4349.../to%20use%20or%not20%to%use.pdf. 10th December, 2009.

Hamann, K and Wilson, B. (2003). Beyond Search Engines: Enhancing Active Learning Using the Internet. In: Munoz, C and Towner, T (2009). *Opening Facebook: How to use Facebook in the college classroom*. (Internet).
<http://www46.homepage.villanova.edu/john.immerwahr/TP101/Facebook.pdf>. 5th February 2010.

Hansen, M. and Erdley, S. (2009). YouTube and other Web 2.0 Applications for Nursing Education. *Online Journal of Nursing Informatics*, (Internet) 13(3). <http://ojni.org/13-3/HansenErdley.pdf>. 5th February 2010.

Harshorne, R. and Ajjan, H. (2008). *Exploring the Role of Web 2.0 Application in Higher Education*. (Internet).http://conference.unctl.org/proceedings/2008_proceedings_803-Web2.pdf. 12th December 2009.

Harshorne, R and Ajjan, H. (2009). *Examining Student Decisions to adopt Web 2.0 technologies: Theories* (Internet). www.springerlink.com/index/565114M2062T6737.pdf. 12th December 2009.

Heather, L. C, Foulger, T. S and Eubank, A. D. (2008). *Have You Googled Your Teacher Lately? Teachers' Use of Social Networking Sites*. (Internet).
<http://www.jstor.org/stable/pdfplus/20442606.pdf>. 12th February 2010.

Hong, W. (2008). Exploring Educational Use of Blogs in U.S Education. *U.S-China Education Review*. (Internet). 5(10), pp.34-38.
http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/42/fb/cc.pdf. 5th February 2010.

Ho Yu, C , Brewer, L , Pennell, A. L, Diaangi, S and Kaprolet, C. (2009). Adopting Web 2.0 for Instruction: The Effect of Faculty rank and Employment Status. (Internet).pp. 1-22. www.aare.edu.au/09/pap/dan091054. 28th August 2010.

Jones, C. (2007). A Report on Web 2.0 and its Potential Uses Within the School of Architecture and Allied Arts, University of Oregon. (Internet). http://aauoregon.edu/computing/downloads/pdf/Web2.0_whitepaper_200711.pdf. 12th January, 2010.

Kay, R. (2007). Online Social Networks. In Cloete, S, Villiers, C and Roodt, S (2009). *Facebook As An Academic Tools For ICT Lecturers*. (Internet).
<http://www.oecd.org/dataoecd/4/55/43977462.pdf> 5th February, 2010

Kear, K. (2004). Peer Learning Using Asynchronous Discussion Systems in Distance Education. In Boulos, M and Wheeler, S (2007). *The Emerging Web 2.0 Social Software: An Enabling Suite of Social Technologies in Health and Health care Education*. *Health information and*

libraries journal 24 2-23. http://www.Webdialogues.net/cs/cdc-new_media-library/download/dlib/1062/Emerging%20Web%202.0%20social%20software%20in%20health%20and%20healthcare%20education.pdf?x-r=pcfile_d. 22nd February 2010.

Keen, A. (2007). The Cult of the Amateur: How Today's Internet is Killing our Culture. In Crook, C, Cummings, J, Fisher, T, Harrison, C, Logan, K, Luckin, R, Oliver, M and Sharples, M (2008). Web 2.0 Technologies for Learning: The Current Landscape, Opportunities, Challenges and Tensions. (Internet). www.becta.org.uk/upload-dir/...Web2_technologies_learning.pdf. 5th February 2010.

Kennedy, G., Dalgarno, B, Gray, K, Judd, T, waycott, J, Benett, S, Maton, K, Krause, K, Bishop, A, Cang, R and Churchward, A. (2007). *The Net Generation Are not Big Users Of Web 2.0 Technologies: Preliminary Findings*. (Internet). www.ascilites.org.au/conferences/singapores07/procs/kennedy.pdf. 10th December 2009.

Rajeev K. and Amritpal K. (2006). Internet Use by Teachers and Students in Engineering Colleges of Punjab, Haryana, and Himachal Pradesh States of India: An Analysis. In Sanni M., Awoleye O. M., Egbetokun A. A., and Siyanbola W. O (2009). Harnessing the Potentials of Internet Technology for Research and Development among Undergraduates in Nigeria: A Case Study of Obafemi Awolowo University. *International Journal of Computing and ICT Research*, (Internet), 3(1), pp 10-17. <http://www.ijcir.org/volume3-number1/article2.pdf>. 23rd February 2010.

Ramayah, T., Jantan, M. and Aafaqi, B. (2003), "Internet Usage Among Students of Institutions of Higher Learning: The Role of Motivational Variables." In: Sanni M. , Awoleye O. M., Egbetokun A. A., and Siyanbola W. O (2009). Harnessing the Potentials of Internet Technology for Research and Development among Undergraduates in Nigeria: A Case Study of Obafemi Awolowo University. *International Journal of Computing and ICT Research*, (Internet), 3(1), pp 10-17. <http://www.ijcir.org/volume3-number1/article2.pdf>. 23rd February 2010.

Rogers, E. (2003). Diffusion of Innovation. In: Harshorne, R and Ajjan, H (2009). *Examining student Decisions to Adopt Web 2.0 Technologies: Theories* (Internet) www.springerlink.com/index/565114M2062T6737.pdf. 20.2008 proceedings 803 Web2 by Hartshorne R 12th December 2009.

Saeed, N., Yang, Y., and Sinnappan, S. (2009). Web Technologies in Higher Education: A Case of Incorporating Blogs, Podcasts and Social Bookmarks in a Web Programming Course based on Students' Learning Styles and Technology Preferences. *Educational Technology & Society* (Internet). 12(4), 98-109. http://www.Webdialogues.net/cs/cdc-new_media-library/download/dlib/1062/Emerging%20Web%202.0%20social%20software%20in%20health%20and%20healthcare%20education.pdf?x-r=pcfile_d. 2nd February 2010.

Sandars, J and Schroter, S. (2007). Web 2.0 Technologies for Undergraduate and Postgraduate Medical: An Online Survey. *Postgraduate Medical Journal*. (Internet).83, pp.759-762. <http://journal.bmj.com/cgi/represent>. 7th June, 2010.

Sanni, M. , Awoloye, O. M., Egbetokun, A. A., and Siyanbola, W. O. (2009).Harnessing the Potentials of Internet Technology for Research and Development among Undergraduates in Nigeria: A Case Study of Obafemi Awolowo University. *International Journal of Computing and ICT Research*, (Internet), 3(1), pp 10-17. <http://www.ijcir.org/volume3-number1/article2.pdf>. 23rd February 2010.

Seitzinger, J. (2006). Be Constructive: Blogs, Podcasts, and Wikis as Constructivist Learning Tools. *In: Usluel, Y and Mazman, S. (2009) Adoption of Web2.0 Tools in Distance Education* (Internet) www.insanbilimleri.com/ojs/index.php/uib/article_view_file/756/397. 12th December, 2009.

Stahl, G, Koschmann, T and Suthers, D. (2006). Computer-Supported Collaborative learning. *In: Simoes, L and Gouveia, L (2008). Web 2.0 and Higher Education: Pedagogical implications. Proceedings of the 4th International Barcelona Conference on Higher Education. Knowledge Technologies for Social Tranformation.* (Internet). . <http://www.uni-rmus.net>. 12th December 2009.

Stutzman, F. (2005) Our lives, Our Facebooks. *In: Selwyn, N (2007). Web 2.0 Applications as Alternative Environments for Informal Learning - A Critical Review*”, [Paper for CERI-KERIS International Expert Meeting on ICT and Educational Performance,16-17 October 2007, *Session 6 - Alternative Learning Environments in Practice: Using ICT to Change Impact and Outcomes.* (Internet). <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.117.9470&rep=rep1&type=pdf> 10th February 2010.

Thompson, J. (2007) Is Education 1.0 Ready for Web 2.0 Students?(Internet) www.innovativeonline.info/.../is_Education_1.0_Ready_for_Web_2.0_students_pdf. 10th December,2009 .

Thompson, S. J, Snowden, S and Bunyan, N. (2009). *Promoting Academic Reading with Web 2.0: Using Social Bookmarking to Facilitate Literature searching and Critical Analysis.* (Internet) <http://www.formatex.org/micte2009/book/1100-1103.pdf>. 18th December 2009.

Tornatzky, L. G., and Klein, K. J. (1982). Innovation Characteristics and Innovation Adoption-Implementation: A Meta-analysis of Findings. *In Harshorne,R and Ajjan,H (2009). Examining student decisions to adopt Web 2.0 technologies: Theories* www.springerlink.com/index/565114M2062T6737.pdf. 12th December 2009.

University of Ibadan Pocket Statistics (2009). University of Ibadan. Ibadan, Nigeria.

Usluel,Y and Mazman,S. (2009). Adoption of Web2.0 Tools in Distance Education (Internet) www.insanbilimleri.com/ojs/index.php/uib/article_view_file/756/397. 12th December, 2009.

Verhonic, P. J and Seaman, C. C. (1978). *Research Methods for Undergraduate Students In Nursing*. In Ania, L.O (2002). *Research In Information Sciences: An African Perspective*. Ibadan: Stirling-Horden Publishers, p18.

Zazzau, E. V. (2006). Exploring Wikis in a Library Credit Course. *Communications of Information Literacy*. (Internet). 3(1), pp.58-64. <http://www.exploringwikisinalibrarycourse.pdf>. 19th January, 2010.

Zorko, V. (2009). Factors Affecting the Way Student Collaborate in a Wiki for English Language Learning. *Australasian journal of Educational Technology*. (Internet) 25(5) 645-665. <http://www.ascilite.org.au/ajet/ajet25/zorko.pdf>. 12th December 2009.