AWARENESS AND PERCEPTION OF USE OF WEB 2.0 TECHNOLOGIES FOR COLLABORATIVE LEARNING IN UNIVERSITIES: A STUDY OF LIBRARY AND INFORMATION SCIENCE UNDERGRADUATE STUDENTS IN EDO STATE, NIGERIA

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Abstract
The study investigated undergraduates' awareness and perception of the use of web 2.0 technologies for collaborative learning in universities in Edo State. Five (5) research objectives were raised to guide the study and were converted into research questions. The survey type of the descriptive research design was adopted with a population of 810 library and information science undergraduate students from three selected universities in Edo State. Using the multi-stage sampling technique, a sample size of 162 respondents was used for the study and questionnaire was adopted as the tool for data collection. Out of 162 copies of questionnaire administered, 157(97%) was retrieved and found usable. The data were analysed using descriptive statistics (frequencies and percentages). The findings revealed that the level of undergraduates' awareness of web 2.0 technologies for collaborative learning is high and they have positive perception towards the use of the technology. The study also revealed that the level of undergraduates' use of web 2.0 technologies for collaborative learning in universities is high. The study concluded that web 2.0 present almost unlimited opportunities to facilitate collaboration with undergraduate students in different universities and also to enhance learning. The researchers recommended that Libraries should help improve students' perception of the use of web 2.0 technologies by organizing periodic trainings for students on the use of emerging technologies for knowledge acquisition and collaboration among colleagues

Keywords: Web 2.0, Collaborative Learning, Undergraduates Students, Social Media, Library and Information Science.

Introduction
The revolution and advancement in technologies has brought about the use of different technologies for different activities such as learning, communication, knowledge

sharing and storage of information. In our present day society, academicians and institutions have adopted the use of different technological tools for learning and knowledge sharing. One of such technologies is web 2.0 technologies. Makori (2012) defined web 2.0 as a second generation web-based services that include social networking sites (such as, Facebook, YouTube, My Space, Flickr, Twitter, and soon) and support systems (like, online help desk) that allows online collaboration, participation, sharing of information and communication services. Its major function is to offer collaborative, interactive, more user-friendly and multi-rich services to users by encouraging information generation, packaging and dissemination on the web in new and interesting ways.

Furthermore, Gulley and Thomas (n.d) explained that web 2.0 tools are free digital programmes that can be used for creating and sharing student-generated projects and products. They are interactive, multi-purpose, easy-to-use digital platforms that encourage students to collaborate with each other or create and share individualized messages. The web 2.0 tools allow for interactive two-way web, user driven web, social software or social computing. The technology is an improvement on web 1.0 which limits users to view contents in a passive manner. Examples of web 2.0 technologies include wiki, blog, RSS, Youtube, open sources software and social networking sites such as facebook, twitter, LinkdIn and instagram.

In the last two decade, the educational sector has embraced the use of web 2.0 technologies for learning, collaboration and knowledge sharing. Exter, Rowe, Boyd and Lloyd (2012) explained that web 2.0 technologies help engage students in their learning while providing social interaction with their peers in the learning process. The technologies enable students to work at the conceptual level of understanding on authentic projects where they can solve problems, discover relationships, discern patterns, and develop a deep understanding of content. Mahmud and Hassanuzzaman (2009) opined that students use web 2.0 tools to evaluate their work and reflect on learning practices, create content, assess their peers and allow students to conduct intuitively in digital environment. Also, with web 2.0 tools such as YouTube, blogs, wiki and podcasts, students are able to engage in self-learning and develop new knowledge and ideas. Gulley and Thomas (n.d) noted that students in the United States use the tool to shape ideas and respond to assignments and assessments. The ease of use of the technology, combined with the quality of the finished products increases students' self-efficacy, and it motivates students to engage more earnestly and actively in the content of their responses.

In Nigeria, a study conducted by Anunobi and Ogbonna (2012) revealed that there is low usage of web 2.0 for learning by undergraduates in Anambra state. The study revealed that the undergraduates used the web 2.0 tools mainly to communicate with friends and colleagues as well as to publicize their profiles. Despite high usage of smartphones and web 2.0 tools by undergraduates, Zadeh (2013) explained that less than 40% of undergraduates in Northern Nigeria use web 2.0 tools for collaborative learning. It is however surprising that despite the numerous benefits associated with the use of web 2.0 tools for collaborative learning, there is a perceived poor use of the

technology for collaborative learning. Nwora (2012) opined that undergraduates' level of awareness and perceptions of the use of web 2.0 technologies are two variables that may affect their use of web 2.0 technologies for collaborative learning. Okuonghae (2018) noted that awareness of the use of social media is a pre-requisite to subsequent usage of social media.

Awareness simply refers to "knowing and understanding of something that is happening in the world or around someone (Okuonghae, 2018). When talking about technology, awareness is key to the adoption and usage of the technology. Similarly, Musa, Azmi and Ismail (2015) opined that there are relatively insufficient data on the awareness and usage of web 2.0 tools among students in higher institutions in Africa. Popoola (2014) also noted that students in higher institutions of learning lack the awareness on the full uses of web 2.0 tools (social media). This, so far, has led to a relatively low use of web 2.0 tools for collaborative learning in universities. From observation and interaction with some undergraduate students, their failure to use web 2.0 tools for collaborative learning is as a result of their lack of awareness of the use of the technology for collaborative learning. Thus, the level of students' awareness of the uses of web 2.0 tools may influence their level of use of the technology.

Apart from the level of students'' awareness of the use of web 2.0 technology, another variable that may influence the level of undergraduates' use of web 2.0 tools for collaborative learning is undergraduates' perception of the use of web 2.0 technologies. According to Ezeani and Igwesi (2012), perception refers to our sensory experience of the world around us and it involves both the recognition of environmental stimuli and actions in response to these stimuli. Perception is the belief or opinion, often held by many people based on how things seem or their understanding about a particular concept or idea (Nwora, 2012). It refers to our views, opinion and understanding of something. While awareness precedes perception, perception determines the acceptance or rejection of something. In relation to web 2.0 technology, perception is key to effective utilization of the technology. Students' views, opinion and understanding of web 2.0 technology may determine their level of use of the technology. In the same vein, MacCoun (2009) observed that poor or negative perception towards an innovation may ultimately lead to the rejection of such innovation since a positive perception usually precedes the acceptance and use of an invention or innovation.

Although, several studies (Exter, Rowe, Boyd & Lloyd, 2012; Anunobi & Ogbonna, 2012; and Zadeh, 2013) had examined the use of web 2.0 technologies by undergraduates. Based on researchers' knowledge, it seems none of the study had examined undergraduates' awareness and perception of use of web 2.0 technologies for collaborative learning in universities, especially by library and information science students. Therefore, the study sought to examine library and information science (LIS) undergraduates' awareness and perception of use of web 2.0 technologies for collaborative learning in universities in Edo State.

Objective of the Study

The main objective of this study is to examine undergraduates' awareness and perception of use of web 2.0 technologies for collaborative learning in universities. Specifically, the study seeks to:

1.   identify the various web 2.0 technologies used for collaborative learning in universities by LIS undergraduate students in Edo State;
2.   determine the level of LIS undergraduate students' awareness of use of web 2.0 technologies for collaborative learning in Edo State;
3.   ascertain the perception of LIS undergraduate student towards the use of web 2.0 technologies for collaborative learning in Edo State;
4.   investigate the level of LIS undergraduate students' use of web 2.0 technologies for collaborative learning in universities in Edo State; and
5.   find out the challenges facing LIS undergraduate students in the use of web 2.0 technologies for collaborative learning in universities in Edo State.

Research Questions

The following research questions guided this study:

1.   What are the various web 2.0 technologies used for collaborative learning in universities by LIS undergraduate students in Edo State?
2.   What is the level of LIS undergraduate students' awareness of use of web 2.0 technologies for collaborative learning in Edo State?
3.   What is the perception of LIS undergraduate student towards the use of web 2.0 technologies for collaborative learning in Edo State?
4.   What is the level of LIS undergraduate students' use of web 2.0 technologies for collaborative learning in universities in Edo State?
5.   What are the challenges facing LIS undergraduate students in the use of web 2.0 technologies for collaborative learning in universities in Edo State?

Literature Review

Web 2.0 allow users to create, describe, post, search, and communicate online content in various forms – which range from music, bookmarks to photographs and documents (Macasskill & Owen, 2016). The literature also reveals that web 2.0 have an all pervasive impact throughout the society. Huffman (2016), stresses that web 2.0 is more of a social movement. Miller (2015) opines that Social networking site indicates a second wave of web techniques which makes information sharing, dissemination and collaboration among the students more interactive. Franklin and Van Harmelen, (2007) have called it a technology change. Virkus (2008) stated that these tools and services facilitate new myriad opportunities of connectivity, communication and collaboration and sharing of information. Therefore, lecturers should encourage, promote and educate the students about the power and pedagogical opportunities offered by web 2.0 technologies (Cohen, 2008).

Web 2.0 is a product of web-based or internet technologies and they depend on these online and mobile technologies to operate (Hamid, Waycott, Chang, & Kurnia, 2011). The different types of web 2.0 technologies used by students according to Gruzd and Staves (2011) are Facebook, blogs, micro blogging, YouTube, twitter, Wikis, Mash Up,

Digg, Delicious Second Life, Flickr, Picasa, amongst others. Hamid et. al (2011) explained that Facebook is a platform that features interactions between users. Facebook users can create a friend list right after membership process and can specify those who can or cannot take part in the interaction (friend selection and limitation of authority) when they sign in

Sandars and Schroter (2007) investigated the use of web 2.0 technologies amongst medical undergraduate students in the United Kingdom (UK). The study revealed that although the overall adoption of web 2.0 was relatively high, the application of some technologies such as podcasts was still marginal and there was a need to research more on some basic concepts such as awareness and familiarity for it to hold its ground. In this context, according to Huang, Hood and Yoo (2013), awareness means students' knowledge about the existence of web 2.0 technologies, whereas familiarity refers to the skills and abilities for operating or using the web 2.0 technologies.

Some students in South Africa have misconceptions about some web 2.0 technologies, podcasts in particular, because of a lack of knowledge and awareness according to the findings reported by Mugwanya, Marsden and Boateng (2011). Mugwanya et al. investigated the academic staffs' and students' experience in podcasting at the University of Cape Town in South Africa, focusing on identifying their current experiences, familiarity and knowledge. The study revealed that only 28% of the students were aware of and familiar with podcasts, and the results showed further that 'some students viewed them [podcasts] as extra lessons which they did not need' (p. 278). Also, Ayooluwa (2016) in a study of use of Web 2.0 technologies for teaching and learning (TAL) purposes in selected federal universities in southwest Nigeria, revealed that majority of the undergraduates in the study do not use web 2.0 technologies for learning. The study also revealed that though the awareness level of the use of web 2.0 was high, only few undergraduate employs the technology for learning.

In addition, Eze (2016) opined that undergraduates in Nigeria are technology-friendly, learn new technology easily, and further enjoy such activities. They are fast embracing new technologies and they closely watch new trends related to information technologies. The undergraduate students usually use some web 2.0 tools such as blogs for social interactions and for acquiring new knowledge. Adekunmisi and Odunewu (2016) opined that web 2.0 technologies is a second generation of web-based services that include social networking sites (such as, Facebook, YouTube, My Space, Flickr, Twitter, and soon) and support systems (like, online help desk) that allows online collaboration, participation, sharing of information and communication services.

Moreover, the use of web 2.0 technologies by undergraduates in Nigeria is faced with numerous challenges. For instance, Okuonghae (2018) explained that epileptic power supply, inadequate ICT skills, poor connectivity issue, lack of technical knowledge and expertise and high cost of acquiring web 2.0 technology hardware are perennial challenges facing the use of web 2.0 technologies in Nigeria.

Methodology

The descriptive survey design was adopted for the study. The population of the study consists of 2018/2019 session of full-time Library and information science undergraduate students in the three Universities (University of Benin, Benin City; Ambrose Ali University, Ekpoma; and Benson Idahosa University, Benin.) selected for this study. According to the figures retrieved from the offices of the Heads of Departments, there exist a total of 419 LIS students in University of Benin, 343 LIS students in Ambrose Ali University, Ekpoma and 48 LIS students at Benson Idahosa University, Benin City. This gives a total population of 810 undergraduate, which is the population of the study. The multi-stage sampling technique was used to determine the sample size for this study. Firstly, the quota sampling technique was used to select 20% of the population from each of the three universities, thus, resulting to a sample size of 162 respondents. Secondly, the researchers employed the use of the simple random sampling technique in the administration of the instrument to the respondents. Therefore, the sample size of the study is 162 library and information science undergraduates in universities in Edo State. The figure was considered adequate for this study as it is in line with Krejcie and Morgan (1970) table for determining a sample size. The data collection instrument was a structured questionnaire designed by the researchers and validated by scholars in library and information science and measurement and evaluation. The reliability of the instrument was carried out using the test re-test method and the result was analysed using Pearson Product Moment Correlation Coefficient r. A reliability coefficient of 0.88 was achieved and considered adequate for the study. The data for the study was collected by the researchers and were analyzed using frequency counts and percentages. The Statistical Package for the Social Sciences (SPSS) version 22 was used for coding and analyzing the data.

A total of 162 copies of the questionnaires were distributed to the respondents and 157 questionnaires were retrieved and found usable, resulting to 97% response rate. This response rate is considered adequate for this study as it is more than the universally accepted response rate for most studies which is 60%.

Analysis of the Respondents' Bio-data

Table 1: Distribution of Respondents by Demographic Characteristics

Gender distribution		
Gender	Frequency	Percentage (%)
Male	79	50.3
Female	78	49.7
Total	157	100.0
Age distribution		
Age	Frequency	Percentage (%)
15 – 20 years	82	52.3
21 – 30 years	64	40.7
31 – 40 years	9	5.7
41 years and above	2	1.3
Total	157	100
Level of Study of the Respondents		
Level of Study	Frequency	Percentage (%)
100	21	13.4
200	31	19.7
300	56	35.7
400	49	31.2
Total	157	100

Table 1 shows that there are slightly more male respondents 50.3% than their female 49.7% counterparts. This implies that male students participated more in this study than their female counterpart. The table further reveals that 52.2% of the respondents are within the age bracket of 15-20 years, 40.7% are within 21-30 years, 5.7% are within 31-40 years, while only 1.3% indicated that they are within 41years and above. This implies that a good number of the respondents are within the age bracket of 15-30years. Table 2 also shows the level of study of the respondents. The table reveals that 35.7% of the respondents are in 300 levels, 31.2% are in 400 levels, 19.7% are in 200 levels, while 13.4% are in 100 level. This implies that majority of the respondents are in 300 level and 400 level respectively.

Research Question One: What are the various web 2.0 technologies used for collaborative learning in universities by LIS undergraduate students in Edo State?

Table 2: Web 2.0 Technologies Used for Collaborative Learning

Web 2.0 Technologies Used for Collaborative Learning	Agree		Disagree	
	No.	%	No.	%
blogs	121	77.1	36	22.9
Yammer	34	21.7	123	78.3
Wikis	79	50.3	78	49.7
YouTube	139	88.5	18	11.5
Slideshare	88	56.1	69	43.9
LinkedIn	111	70.7	46	29.3
MySpace	9	5.7	148	94.3
Twitter	104	66.2	53	33.8
Facebook	147	93.6	10	6.4

Table 2 shows the various web 2.0 technologies used for collaborative learning in universities. The table revealed that Facebook (93.6%), YouTube (88.5%), blogs (77.1%), LinkedIn (70.7%), Twitter (66.2%), Slideshare (56.1%) and Wikis (50.3%) are the various web 2.0 technologies used for collaborative learning in universities as agreed by the respondents. This implies that the various web 2.0 technologies used for collaborative learning in universities include Facebook, YouTube, blogs, LinkedIn, Twitter, Slideshare and Second Life.

Research Question Two: What is the level of LIS undergraduate students' awareness of use of web 2.0 technologies for collaborative learning in Edo State?

Table 3: Level of LIS Undergraduate Students' Awareness of Use of Web 2.0 Technologies for Collaborative Learning

Level of Awareness	Very High		High		Low		Very Low	
	No.	%	No.	%	No.	%	No.	%
I know different web 2.0 tools	140	89.2	10	6.4	2	1.2	5	3.2
I understand the functions of web 2.0 tools	103	65.6	44	28.0	7	4.5	3	1.9
I can identify at least five web 2.0 tools	78	49.7	24	15.3	16	10.2	39	24.8
I understand the usage policy of information retrieved from web 2.0 tools	79	50.3	35	22.3	13	8.3	30	19.1
I can identify the various devices used to explore web 2.0 tools	91	58.0	32	20.4	14	8.9	20	12.7
I can identify some of the challenges associated with the use of web 2.0 tools	103	65.6	44	28.0	7	4.5	3	1.9
I know the features of web 2.0 tools	96	61.1	41	26.1	15	9.6	5	3.2

Table 3 shows that 89.2% know different web 2.0 tools, 65.6% understand the functions of web 2.0 tools, 65.6% can identify some of the challenges associated with the use of web 2.0 tools, 61.1% know the features of web 2.0 tools, 58% can identify the various devices used to explore web 2.0 tools, 50.3% understand the usage policy of information retrieved from web 2.0 tools while 49.7% can identify at least five web 2.0 tools. This implies that the level of undergraduates' awareness of web 2.0 technologies for collaborative learning is high.

Research Question Three: What is the perception of LIS undergraduate student towards the use of web 2.0 technologies for collaborative learning in Edo State?

Table 4 Perception of LIS Undergraduate Student towards the Use of Web 2.0 Technologies for Collaborative Learning

Perception of Undergraduates	SA		A		D		SD	
	No.	%	No.	%	No.	%	No.	%
I perceive web 2.0 technologies to be easy to use	139	88.5	7	4.5	6	3.8	5	3.2
I understand and have good knowledge of use of web 2.0 technologies for collaborative learning	91	58.0	32	20.4	14	8.9	20	12.7
I am aware that it is easier to get current information from web 2.0 technologies than from other formats.	78	49.7	24	15.3	16	10.2	39	24.8
I perceive that the use of web 2.0 technologies will save the students valuable time	44	28.0	31	19.7	65	41.5	17	10.8
I am aware that information available in web 2.0 technologies can be shared among colleagues.	144	91.7	6	3.8	4	2.5	3	1.9
I understand that information available in web 2.0 technologies can be used simultaneously by different users.	103	65.6	44	28.0	7	4.5	3	1.9

Table 4 revealed that 91.7% are aware that information available in web 2.0 technologies can be shared among colleagues, 88.5% perceive web 2.0 technologies to be easy to use, 65.6% understand that information available in web 2.0 technologies can be used simultaneously by different users, 58% understand and have good knowledge of use of web 2.0 technologies for collaborative learning, while 49.7% are aware that it is easier to get current information from web 2.0 technologies than from other formats. This implies that undergraduates have good/positive perception towards use of web 2.0 technologies for collaborative learning.

Research Question Four: What is the level of LIS undergraduate students' use of web 2.0 technologies for collaborative learning in universities in Edo State?

Table 5: Level of LIS Undergraduate Students' Use of Web 2.0 Technologies for Collaborative Learning

Level of Use of Web 2.0 Technologies for Collaborative Learning	Very High Level		High Level		Low Level		Very Low Level	
	No.	%	No.	%	No.	%	No.	%
blogs	103	65.6	44	28.0	7	4.5	3	1.9
Yammer	44	28.0	31	19.7	65	41.5	17	10.8
Wikis	78	49.7	24	15.3	16	10.2	39	24.8
YouTube	91	58.0	32	20.4	14	8.9	20	12.7
Slideshare	79	50.3	35	22.3	13	8.3	30	19.1
LinkedIn	96	61.1	41	26.1	15	9.6	5	3.2
MySpace	22	14.0	14	8.9	47	30	74	47.1
Twitter	96	61.1	41	26.1	15	9.6	5	3.2
Facebook	140	89.2	10	6.4	2	1.2	5	3.2

Table 5 revealed the level of undergraduates' use of web 2.0 technologies for collaborative learning in universities. The table revealed that Facebook (89.2%), blogs (65.6%), LinkedIn and Twitter (61.1%), YouTube (58%), Slideshare (50.3%) and Wikis (49.7%) are used at a very high level by undergraduate students for collaborative learning in universities. Whereas, only 3.2% respondents indicated that they use Twitter and Facebook at a very low level. This further implies that the level of undergraduates' use of web 2.0 technologies for collaborative learning in universities is high.

Research Question Five: What are the challenges facing LIS undergraduate students in the use of web 2.0 technologies for collaborative learning in universities in Edo State?

Table 6: Challenges Facing LIS Undergraduate Students in the Use of Web 2.0 Technologies for Collaborative Learning

Challenges Facing Undergraduates In The Use Of Web 2.0 Technologies For Collaborative Learning	Agree		Disagree		Total
	No.	%	No.	%	
Epileptic power supply	99	63.1	58	36.9	157
inadequate skills to use web 2.0 technologies for collaborative learning	136	86.6	21	13.4	157
Some forms of web 2.0 technologies require a lot of mental effort	104	66.2	53	33.8	157
There are a lot of privacy related problems associated with web 2.0 usage.	119	75.8	38	24.2	157
Frequent obsolescence of hardware and software	93	59.2	64	40.8	157
Poor network bandwidth	102	65.0	55	35.0	157
Inadequate/ unavailability of ICT facilities needed to explore web 2.0 tools	121	77.1	36	22.9	157

Table 6 revealed the challenges facing undergraduates in the use of web 2.0 technologies for collaborative learning in universities. The table revealed that inadequate skills to use web 2.0 technologies for collaborative learning (86.6%), Inadequate/ unavailability of ICT facilities needed to explore web 2.0 tools (77.1%), there are a lot of privacy related problems associated with web 2.0 usage (75.8%), Some forms of web 2.0 technologies require a lot of mental effort (66.2%), Poor network bandwidth (65%), Epileptic power supply (63.1%) and Frequent obsolescence of hardware and software (59.2%) are some of the challenges facing undergraduates in the use of web 2.0 technologies for collaborative learning in universities. The implication of this is that inadequate skills, inadequate/ unavailability of ICT facilities needed to explore web 2.0 tools, privacy related problems, poor network bandwidth and epileptic power supply are the challenges facing undergraduates in the use of web 2.0 technologies for collaborative learning in universities.

Discussion of Findings

The findings are discussed according to the research questions as follows:

Research question one revealed that the various web 2.0 technologies used for collaborative learning in universities include Facebook, YouTube, blogs, LinkedIn, Twitter, Slideshare and Wikis. This finding is in conformity with Gruzd and Staves (2011) Facebook, blogs, micro blogging, YouTube, twitter, Wikis, Mash Up, Digg, Delicious Second Life, Flickr, Picasa, amongst others are the various web 2.0 technologies used for collaborative learning

Research question two revealed that the level of undergraduates' awareness of web 2.0 technologies for collaborative learning is high. This finding is in agreement with Mugwanya, Marsden and Boateng (2011) that the level of undergraduate awareness of web 2.0 technologies for collaborative learning is high as majority of them are aware of the use of technologies such as Facebook, Blogs, LinkIn and Twitter for collaborative learning.

Research question three revealed that undergraduates have good/positive perception towards use of web 2.0 technologies for collaborative learning. This finding conforms with the assertion of Dahlstrom (2012) that students recognise the value in blended learning opportunities where a mix of technology and face to face learning seems to provide the best learning experience.

Research question four revealed that the level of undergraduates' use of web 2.0 technologies for collaborative learning in universities is high. This finding is in agreement with Drula (2009) that web 2.0 like Facebook, LinkedIn YouTube, blogs and Twitter are very highly used for collaborative learning among undergraduate students.

Research question five revealed that inadequate skills to use web 2.0 technologies for collaborative learning, inadequate/ unavailability of ICT facilities needed to explore web 2.0 tools, privacy related problems associated with web 2.0 usage, mental efforts required to use some technologies, Poor network bandwidth, epileptic power supply

and frequent obsolescence of hardware and software are some of the challenges facing undergraduates in the use of web 2.0 technologies for collaborative learning in universities. This finding is in agreement Erhabor (2012) that epileptic power supply, poor network bandwidth, inadequate skills amongst others are some of the challenges affecting the use of social networking sites and web 2.0 technologies in universities.

Conclusion

The web 2.0 technologies are becoming potential tools for learning among students in institutions of higher learning. The flexibility and relative ease of use of many web 2.0 tools, have not only encouraged self-learning but has created room for collaborative learning among undergraduates. When used in an integrated way, web 2.0 present almost unlimited opportunities to facilitate collaboration with undergraduate students in different universities. This also enhances knowledge sharing among students. This study confirms the importance of use of web 2.0 for learning, knowledge creation and sharing.

Recommendation

In the light of the findings of this study, the following recommendations are made:
1. Universities should sensitize students on the use of some web 2.0 technologies (YouTube, Wikis, Twitter and Blogs) for collaborative learning among themselves.
2. Libraries should help improve students' perception of the use of web 2.0 technologies by organizing periodic trainings for students on the use of emerging technologies for knowledge acquisition and collaboration among colleagues.
3. University should implement policies that will lead to high use of web 2.0 technologies for knowledge sharing and collaborative learning among students.
4. Governments and the different institutions of higher learning should make efforts to address the challenges facing students in the use of web 2.0 technologies for collaborative learning. For instance, for the issue of epileptic power supply, an alternate source of power (solar, generator) could be provided.

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