BARRIERS TO INTEGRATION OF WEB 2.0 TECHNOLOGIES IN TEACHING/LEARNING OF BUSINESS EDUCATION COURSES IN NIGERIAN UNIVERSITIES

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Abstract

This paper examined the barriers of integrating web 2.0 technologies in the teaching/learning of business education courses in Nigeria Universities. The paper sought answers to the research question "what are the barriers of integrating web 2.0 technologies in the teaching/learning of business education courses in Nigeria Universities? Descriptive survey research design was used for the study. A sample of 121 students was used for the study while all the 21 lecturers were used as the number was sizeable for the researcher to handle. Barriers to the Integration of Web 2.0 Questionnaire (BIWQ) with a split half reliability of 0.89 was used to collect data from the respondents. A total of 142 copies were administered altogether and 138 copies were retrieved and used for the study. Mean, standard deviation and ranks were used to analyse the data collected to answer the research question. Independent t-test statistic was used to test the null hypothesis at 0.05 level of significance. The findings of the study revealed that all the items except just two items constitute barriers to the integration of web 2.0 technologies in the teaching/learning of business education courses in Nigeria universities. It was concluded that graduates of business education would not be able to acquire the needed skills and competencies to be able to function effectively in the 21st world of work because of the inherent barriers to the integration of web 2.0 technologies in the teaching/learning of business education courses. Based on the findings of the study, it was recommended among others that; there is the need for Business educators to revised and develop Business Education curriculum to deploy ICT application effectively and they should be specifically designed to fit the emerging Web technologies.

Key Words: Barriers, Web 2.0 technologies, Business Education

Introduction

The past five years or so have seen growing excitement within the educational community about web 2.0 technologies. The term 'Web 2.0' is an umbrella term for a host of recent internet applications such as social networking, wikis, folksonomies, virtual societies, collaborative sites, blogging, multiplayer online gaming and 'mashups'. Web 2.0 refers to a perceived second generation of Web development and design that facilitates communications and secures information sharing, interoperability and collaboration on the World Wide Web (Harris & Rea, 2012). According to O'Reily (2005), web 2.0 refers to the social use of the Web which allows people to collaborate, to get actively involved in creating content, to generate knowledge and to share information online. Today the Web has become more than an information repository or a place to search for resources. No wonder Yuen, Yaoyuneyong and Yuen (2011) stated that the advent of Web 2.0 has transformed the

internet into a global network of interconnected learning communities. As the prevalence of these tools increased, the availability of freely accessible, user-generated and online information has simultaneously expanded. These two trends according to Yuen, Yaoyuneyong and Yuen (2011) have combined to change the way teachers and students interact.

Business education is a programme of instruction which offers specialized instruction for office occupations and general business orientation which is capable of transforming the nation. Web 2.0 has the potential to forever alter the way business education instruction is constructed and disseminated, due to their ease of use, their open nature and their support for collaboration and communication. The applications associated with Web 2.0 have profound potential to transform education. Teachers can use Web 2.0 tools to captivate students, to hold their attention and to enhance their learning experiences. Many scholars such as Franklin and Harmelen (2007) predicted that the evolution of Web 2.0 will transform the way colleges and universities go about the business of education. Beyond aiding learning, teaching and assessment, web 2.0 technologies have the potential to enhance and interconnect school communities to widen participation and help keep alumni in contact and to expand education's ability to symbiotically coexist with industry (Franklin & Harmelen, 2007). Through Web 2.0 technologies, students can become creators of content and not just consumers. As they participate in learning activities facilitated by Web 2.0 tools, students gain the opportunity to innovate and create in a collaborative multimedia environment. For instance, Social networking's rise to prominence in the lives of learners has prompted enthusiasm amongst educators. Some claim that social networking applications share many of the qualities of a good 'official' education technology. They permit peer feedback and match the social contexts of learning such as the school, university or local community. Social networking sites such as MySpace and Facebook have shown among other things that students will invest time and energy in building relationships around shared interests and knowledge communities. Zelick (2013) stated that this has prompted some educationalists to explore the potential of social networking to augment 'conventional' interactions and dialogue between students and teachers. According to this trend, Web 2.0 tools will foster collaborative learning, increase motivation and participation, help students to acquire skills for self-regulated learning and weave connections between formal and informal learning.

Today, thousands of Web 2.0 applications with potential in teaching and learning are available for students and educators. These tools include, but are not limited to:

Podcasts: Podcasts are usually included within the Web 2.0 galaxy as another example of user generated content. Within academic publishing, podcasts are becoming an increasingly common adjunct to online journals and are reported to be very popular. Example of this is iTunes.

Blogs: These are simple web pages consist of information or links called posts. Blog allows the user to add comments. Posting and communicating process is blogging (Exchange of views). Examples are blogger, wordpress, etc.

Bookmarking tools: Social bookmarking refers to systems that allow users to store internet bookmarks and categorize them (with "tags") so that as well as being available for the user's own future use, they can be shared, for example with colleagues or with anyone interested in the field represented by the categories used. Examples are del.icio.us, Diigo, etc.

Social networking tools: Social networking services (SNSs) are spaces for online conversations and content sharing, and are inherently capable of being personalised. Examples are EduSpace, Facebook, Ning, etc.

Collaborative Authoring: In e-learning and online environment for peer review work, group projects/documents, track changes, collaborative note taking following tools are used Google Doc, stu.dicio.us, etc.

E-Portfolio: This is used to create a digital online repository for your publications and materials to show your teachers, students and colleagues. Examples are Elgg.com, digication.com, epsilon.com, etc.

Zotero (Collect and manage research): Is a powerful, easy-to-use research tool that helps you gather, organize, and analyse sources and then share the results of your research.

Instant Messaging: IM is a form of real-time direct text-based chatting communication in push mode between two or more people using personal computers or other devices, along with shared clients. Examples are yahoo messenger, 2go etc.

Course management system: These are free web application that educators can use to create effective online learning sites. These systems are used for creating delivering and training/education through a structured delivery system. Examples are moodle, blackboard etc.

Other tools are Websites/Blogs/Micro blogs, Open source content and applications, Communication tools like email, mobiles, etc., social games/virtual worlds e.g.secondlife.com, Mapping, Content Management Systems like Zhoomla, Drupal, and many more (Dhamdhere, 2012)

Like other generations of educational technologies, before the adoption of Web 2.0 tools, Universities need to overcome some tensions and barriers. These barriers according to Ertmer (1999) are dynamics preventing or restricting teachers' use of technology in the classroom. Several researchers (Earle, 2002; George, 2000; Whitehead, Jensen, & Boschee, 2003) found technical support, teacher expertise, time for planning, budget and pedagogical applications to be barriers when integrating Web technology into the classroom. An and Reigeluth (2011) reported lack of technology, lack of time and assessment as leading barriers to creating technology enhanced classrooms. In addition, Whitehead, Jensen, and Boschee (2003) identified state educational agencies lacking resources and funding as a major barrier to integrating technology. Most of these studies were carried out in settings different from Nigeria, hence the need for this study in Nigeria.

Problem

Today's students are no longer the people our educational system was designed to teach. Teaching and learning of business education is still carried out using the conventional methods in which students are told what to learn, as well as when, where and how. Instead that knowledge should be actively constructed and students should be made responsible for their own learning. No wonder Redmann and Kotrlik (2008) described how the traditional learner would listen to a class lecture, take notes and prepare for a written test. This type of traditional environment does not prepare the learner for the contemporary world of work that exists today. Technology enhanced learning prepare students with the knowledge and skill needed for success in the twenty-first century. Currently, a gap exists between the potential offered by modern internet technologies and actual pedagogy and practice (Conole, 2010; Conole & Alevizou, 2010). Despite the apparent potential and general enthusiasm among instructors, researchers have found that teachers seldom incorporate Web 2.0 technologies extensively in their classrooms (Bertolo, 2008; Conole & Alevizou, 2010). Hence, the need to examine the barriers to the integration of web 2.0 technologies in the teaching/learning of Business Education courses in Nigerian Universities.

Research Question

What are the barriers of integrating web 2.0 technologies in the teaching/learning of Business Education courses in Nigeria Universities?

Hypothesis

There is no significant difference between the responses of lecturers and students regarding the barriers of integrating web 2.0 technologies in the teaching/learning of Business Education in Nigeria Universities.

Methodology

Descriptive survey design was adopted for the study. The study was a survey of the opinions of lecturers and students regarding the barriers to the integration of web 2.0 technologies in the teaching and learning of business education courses in Nigerian Universities that offer business education. The population for the study consisted of 21 Business Education lecturers and 403 students from three Nigerian Universities that offer Business Education (Kwara State University, Malete, Ahmadu Bello University, Zaria and Tai Solarin University of Education, Ijagun) were selected for the study. The researcher believed that Business Education lecturers and students are in a better position to understand and appreciate the barriers militating against the integration of web 2.0 technologies in the teaching/learning of Business Education courses in Nigeria Universities.

Sampling Technique

The sampling procedure adopted for the study was stratified random sampling technique. The identified strata were lecturers and students. A sample of 30%

representing 121 of the students was proportionately selected for the study. There was no sampling for lecturers as the number was sizeable for the researcher to handle.

Instrument

A structured questionnaire tagged Barriers of Integrating Web 2.0 Questionnaire (BIWQ) designed by the researcher with a split-half reliability coefficient of 0.89 was used to gather data for the study. The questionnaire consisted of thirty (30) carefully designed items after extensive review of literature. The items were placed on the 4 point rating scale of Strongly Agreed (SA) SA = 4, Agreed (A) = 3, Disagreed (D) = 2, and Strongly Disagreed (SD) = 1. A total of one hundred and forty two (142) questionnaires were administered and one hundred and thirty eight (138) were collected representing 97.2%.

Techniques for data analysis

The data collected to answer the research question were analysed using mean, standard deviation and ranks. The mean rating of 2.50 was used for decision regarding the research question. This was calculated based on the 4 point rating interval used in the study. Items with mean values of 2.50 and above were considered as agreed while items with mean values below 2.50 were considered as disagreed. The hypothesis was tested using independent t-test statistic at 0.05 level of significance.

Results

Research Question: What are the barriers of integrating Web 2.0 technologies in the teaching/learning of Business Education courses in Nigeria Universities?

Table 1 Mean, standard deviation and Ranks of responses of students and lecturers on the barriers of integrating web 2.0 in the teaching/learning of business education

S/N	Items	$\bar{X}$	S	Ranks	Remark
1	Lack of infrastructure	2.93	1.02	22nd	Agreed
2	Lack of maintenance of computers	3.02	1'.01	17th	Agreed
3	Poor Internet access	3.64	0.48	2nd	Agreed
4	No Internet access due to filters or internet firewalls	2.91	1.11	23rd	Agreed
5	Student's limitations with ICT skills	3.55	0.49	3rd	Agreed
6	Problems of preserving content produced through Web 2.0 services and applications	2.47	1.14	29th	Disagreed
7	Lack of funding	2.62	1.00	28th	Agreed
8	Lack of Administrative Support	2.53	0.98	4th	Agreed
9	Lack of Personal Interest on the part of the teachers and students	3.00	1.11	18th	Agreed

10	Lack of Professional Development and Training	2.87	1.09	24th	Agreed
11	Difficulties in recruiting qualified instructors	3.00	0.57	18th	Agreed
12	Difficulties in scheduling	2.98	1.03	21st	Agreed
13	High cost of programme development	3.23	0.99	13th	Agreed
14	Lack of immediate feedback from instructors	2.80	1.06	25th	Agreed
15	Lack of motivation	2.64	1.09	27th	Agreed
16	Problems of identity, trust, reputation and privacy	3.39	0.87	9th	Agreed
17	No access to technology	3.45	0.59	5th	Agreed
18	Resistance to change.	3.12	0.89	14th	Agreed
19	Lack of awareness of Web 2.0 tools	3.81	0.38	1st	Agreed
20	Lack of space in the curriculum	3.38	0.51	10th	Agreed
21	Lack of time for planning	2.71	1.05	26th	Agreed
22	Difficulty of assessment using web 2.0 tools	2.40	0.97	30th	Disagreed
23	Web 2.0 technologies are too new	3.45	0.67	5th	Agreed
24	Lack of content in local language	2.99	1.04	20th	Agreed
25	Lack of time to explore all Web 2.0 applications	3.10	0.71	16th	Agreed
26	Lack of training programmes for teachers to use/teach Web 2.0 tools.	3.28	0.55	12th	Agreed
27	Not able to relate Web 2.0 applications with teaching	3.42	0.81	8th	Agreed
28	Already overloaded with core teaching so no time to add on web 2.0 tools	3.31	0.72	11th	Agreed
29	Have little or no interest in using integrated social software while teaching	3.11	0.61	15th	Agreed
30	Web 2.0 is a very recent phenomenon that needs continuous change and transformation	3.46	0.53	5th	Agreed

Table 1 revealed that lecturers and students were unanimous in their responses on almost all the items as they agreed to the items except for items 6 and 22. This is because all the items have mean values of more than 2.50 which is the fixed decision value. Nineteen items remarkably stood out with mean scores above 3.00. This clearly showed that these items such as lack of awareness of Web 2.0 tools, lack of space in the curriculum, resistance to change, problems of identity, trust, reputation and privacy, lack of training programmes for teachers to use/teach Web 2.0 tools, not able to relate Web 2.0 applications with teaching, Web 2.0 technologies are too new and others are at the forefront of the barriers to the integration of Web 2.0 technologies in teaching/learning of Business Education courses in Nigerian Universities.

Hypothesis: There is no significant difference between the responses of lecturers and students regarding the barriers of integrating Web 2.0 technologies in the teaching/learning of Business Education in Nigerian Universities.

Table 2 **Summary of independent t-test result of the mean responses of lecturers and students regarding the barriers of integrating Web 2.0 in the teaching/learning of Business Education courses**

Groups	N	Mean	SD	t-cal	t-crit	p-value	Decision
Lecturers	19	3.03	0.51	0.42	1.96	0.06	NS
Students	119	3.09	0.48				

*NS = Not Significant
P>0.05

The result in Table 2 revealed that the t-calculated (0.42) was less than the critical value of t (1.96). This indicated that the null hypothesis which states that there is no significant difference between the responses of lecturers and students regarding the barriers of integrating Web 2.0 technologies in the teaching/learning of Business Education in Nigerian Universities was therefore retained. This implied that teachers and students agreed that the construct listed in Table 1 are barriers to the integration of Web 2.0 technologies in the teaching/learning of Business Education courses.

Discussion

The study revealed that both lecturers and students agreed that lack of awareness of Web 2.0 as an educational tool is the major barrier to its integration in teaching/learning. No wonder it is said that if you are not informed you are deformed. Ajjan and Hartshorne, (2008) reported in his study that majority of responding faculty (60-80%) did not use any Web 2.0 applications in their classes and had no plans to in the future because they are not aware of them. This also shows that business education lecturers and students are not updated as regards new and emerging technologies which lead to their unawareness. It was also found that lack of time for planning, adequate technical support and students' limitation of ICT skills are barriers to the integration of web 2.0 tools. Supporting this view, An and William (2010) found that teachers reported encountering three barriers when introducing Web 2.0 tools into the classroom environment: a) students uneasiness with openness and public discourse and interactions, b) technical difficulties related to students' lack of new computers, glitches due to the in-progress nature of many Web 2.0 tools and lack of adequate technical support, and c) the extra-time necessary to initially learn and then manage new Web 2.0 technologies, both for the instructors and for the students. Also, several researchers; Earle, (2002); George, (2000) and Whitehead, Jensen and Boschee, (2003) found technical support, teacher expertise, time for planning to be barriers when integrating technology into the classroom.

It was also revealed that lack of technology, infrastructure, computers and internet are barriers to the integration of web 2.0 tools. This finding is supported by An and Reigeluth (2011) who reported lack of technology, lack of time and assessment as leading barriers to creating technology enhanced classrooms. The integration of Web 2.0 will continue to suffer because there is no internet access and other basic facilities. Lack of funding was also found to be a barrier of integrating web 2.0 tools. Corroborating this finding, Whitehead, Jensen, and Boschee (2003) identified state educational agencies lacking resources and funding as a major barrier to integrating technology. Crook, Fisher, Graber, Harrison, Lewin, Cummings & Sharples (2008) identified other staff perceptions with the potential to act as barriers to the adaptation of Web 2.0 tools; these include fear of becoming overly reliant on technologies that may not remain available due to budgetary restrictions within the university, policy change in the service provider and the financial collapse of the service provider.

The study found lack of professional development and training as one of the barriers of integrating web 2.0 tools. Employers do not organize Professional Development Training (PDT) for teachers to keep them updated. In line with this Dogoriti, and pange, (2012) reported that lack of training programmes for teachers to use/teach Web 2.0 tools to be the main problem. Furthermore, Budin (1999) as reported by Christopher, Pritchett, Pritchett and Wohleb (2012) proposed that school systems were more concerned with acquiring the hardware and software technology instead of implementing staff development and planning for integrating technology effectively. The study also found that lack of space in the curriculum is one of the barriers of integrating web 2.0 tools in the teaching and learning of business education courses. The curriculum has been designed based on the traditional way of teaching and therefore it becomes difficult to incorporate the emerging technologies in the curriculum. No wonder Zelick, (2013) stated that the present curriculum is occupied with traditional ideas and need to be revised. It was found that lack of maintenance of computers was also a barrier to the integration of web 2.0 tools. Schools lack maintenance culture which is a hindrance to the integration of technologies in the classrooms. This finding is supported by Dogoriti, and pange, (2012) who found that ICT application for teaching/learning purposes in ESP has become an issue of debate in contemporary education due to many factors of which poor maintenance culture was at the forefront. Lack of administrative support was also found to be a barrier of integrating web 2.0 tools in the classroom. In support of this finding, Christopher, Pritchett, Pritchett and Wohleb (2012) found lack of administrative support as one of the highest reported barriers to the use of new technologies.

Difficulties in recruiting qualified instructors, difficulties in scheduling and lack of motivation were found to be barriers. Teachers are not qualified and are not also motivated to incorporate new technologies into the classroom. Redmann and Kotrlik (2008) agreed with this finding when they found that teachers are not motivated to do their job well. This study also found that, problems of identity, trust, reputation and privacy hinders the integration of web 2.0 tools. Most people, students and teachers inclusive believe that any content on the web no longer has privacy. Also, some people believe that they cannot put any of their identity on the web. This finding was buttressed by Pritchett, Pritchett and Wohleb (2012) in their study when they

found that problem of privacy and reputation was one of the barriers of integrating web 2.0 tools in the teaching and learning.

Other findings include lack of time to explore all Web 2.0 applications and not able to relate Web 2.0 applications with teaching, these barriers were found as working against the integration of the new web technologies in the teaching/learning process. Buttressing this, Crook *et al.* (2008) in their study identified staff perceptions with the potential to act as barriers to the adaptation of Web 2.0 tools; fear of becoming overly reliant on technologies that may not remain available, not able to relate Web 2.0 applications with teaching.

Conclusion

The study was to find the barriers of integrating web 2.0 technologies in the teaching/learning of Business Education courses in Nigerian Universities. The findings revealed that teachers as well as the students are in abeyance of web 2.0 technologies in the teaching/learning process as a result of all the barriers revealed by this study. It means that the instructions of Business Education are still being taken under the traditional mode of teaching and learning. Since this is the case, it means that the ingenuity, agility, competencies and skills of Business Education students that are crucial to their success and competitiveness would be compromised. This clearly indicated that business education programme would be producing graduates who would not be able to function effectively in the 21st century world of work and who cannot contribute anything meaningful to the development of an economy driven by innovation. The effect of producing half baked graduates on an economy is better imagined.

Recommendations

Based on the findings of this study, the following recommendations are made:

1. There is the need for Business educators to revised and develop Business Education curriculum to deploy ICT application effectively and they should be specifically designed to fit the emerging Web technologies. Since they promote and facilitate interactive and collaborative learning.
2. Business education teachers even as digital immigrants should try to stay updated regarding the emerging technologies that can be applied in the teaching/learning process and try to incorporate them into the classroom.
3. There is the need for Universities to take the issue of teacher development with all seriousness by way of organizing workshops, seminars and sending them to in-service training to acquire knowledge and skills in the emerging Web technologies and their applications in the classroom.

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