

PERCEIVED BENEFITS AND BARRIERS OF UTILIZING WEB 2.0 TECHNOLOGIES IN TEACHING BUSINESS EDUCATION COURSES IN UNIVERSITIES

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Abstract

The study investigated the Awareness and Utilization of Web 2.0 Technologies in Teaching Business Education Courses in Universities in North Central, Nigeria. The study was carried out with two purposes, among which are to examine the benefits of utilizing Web 2.0 technologies for teaching business education courses in universities and to determine the barriers of utilizing Web 2.0 technologies in business education courses in universities. The study has two research questions and two hypotheses. The population of the study was 88 business education lecturers, and no sample was conducted as a result of the small size of the population. The study adopted a survey research design. The instrument used for data collecting was a structured questionnaire tagged, Awareness and Utilization of Web 2.0 Technologies in Teaching Questionnaire (AUWTTQ) with a modified 4-point rating scale. The reliability coefficient of the instrument was determined using the Cronbach Alpha technique which revealed a reliability index of 0.86. The data collected was analyzed using mean statistics standard deviation and independent sample t-test. The finding revealed that there is no significant difference in the mean response scores of respondents on the benefits of utilizing Web 2.0 technologies in teaching business education courses in universities based on years of experience. And there is no significant difference between the mean response scores of male and female respondents on the barriers to utilizing Web 2.0 technologies in teaching business education courses in universities. The study concludes that lecturers are aware of Web 2.0 technologies and these technologies are utilized in teaching business education courses. It was recommended among others that, the benefits of Web 2.0 technologies should be promoted by the curriculum developers, universities, stakeholders, and lecturers to promote the use of technologies in teaching.

Keyword: Benefits, Barriers, utilization of Web 2.0 Technology

Introduction

The way people communicate, collaborate, and learn has changed as a result of the push for lifelong learning and continuous improvement, rapidly evolving business needs, and the advent of Web 2.0 tools. In educational settings, technologies like Web 2.0 tools (blogs, wikis, and forums) are being used more and more. This has changed the teacher's role from giving instructions to becoming a moderator or facilitator in the learning process. At the same time, it has empowered students to autonomously use the tools to become active participants rather than passive observers. These phenomena present many challenges that educators need



to identify and overcome if Web 2.0 is to accommodate fully the benefits that are intended to be delivered. A possible strategy to address this is by exploring how Web 2.0 tools are used in practice and how they can fit into existing educational approaches.

Higher education institutions' teaching and learning methods are always evolving due to increased understanding of information technology and related developments (Eligi & Mwantimwa, 2017). According to a number of studies, there has been an increasing trend of using technology in the classroom to meet some of the technical demands of both teachers and students. It is evident that new technologies, such as Web 2.0 technologies, have been incorporated into college and university teaching and learning activities. YouTube, mashups, virtual worlds, online games, social networking, social bookmarking, blogs, wikis, and syndication-based tools are a few examples of Web 2.0 technology. Previous studies have demonstrated an increase in the use of emerging technologies, like Web 2.0 tools, in teaching and learning activities. Specifically, discuss how the growing popularity of Web 2.0 technologies indicates that developing technology-rich, interactive, and inquiry-based courses is appropriate for preparing students for today's complicated world.

Echeng, Usoro, and Majewski (2014) define perceived benefit as a person's conviction that technology would improve their productivity. Web 2.0 learning activities, according to Palaigeorgiou and Grammatikopoulou (2016), educate students how to work together, produce digital material, think critically, extend the time-space of educational conversation, and foster trust between students and teachers. Web 2.0 tools "are particularly used to support group members in editing online documents, along with exchanging thoughts and insights related to the subject matter," according to Al-Samarraie and Saeed (2018). By encouraging student participation and interaction, Web 2.0 tools are being used in higher education institutions to produce "a more learner-centred learning environment" (Hassan et al., 2021). As a result, this web form was in charge of establishing social media, communities, partnerships, and conversations. Because of this, Web 2.0 is regarded by the majority of users as their primary method of web interaction and, when used properly, provides numerous advantages. In the context of this study, utilization refers to the methodical process of using educational learning resources to generate data collected during the design and analysis stages as well as the selection choice. Additionally, it uses resources and a methodical approach to help in the learning process (Seels and Richly, 2014).

Web 2.0 tools include openly accessible synchronized tools like Google Apps and Dropbox, as well as Social Networking Sites (SNSs) like Facebook, WhatsApp, Twitter, Skype, and blogs, as well as wikis for discussion and sharing of educational content (AlSamarraie & Saeed, 2018; Wang, Chen, & Khan, 2014). Nedeva and Dineva (2012) state that the development of a content-specific platform involves the use of adaptable and cooperative communication tools. Websites that prioritize end-user interoperability, participatory culture, and user-generated content are referred to as Web 2.0 technologies (Bugawa & Mirzal, 2018). According to Nedeva and Dineva (2012), these easily available tools "have allowed people with common interests to meet, share ideas, and collaborate in innovative ways." No matter where they lived, students could access online resources and monitor their progress (Wang et al., 2014). According to Al-Samarraie and Saeed (2018), the most popular platforms for collaborative learning were Facebook, Twitter, Skype, and WhatsApp. Research has shown that a variety of methods, including videocasts and podcasts, can effectively enhance students' learning outcomes (Pinto-Llorente, Sánchez-Gómez, García-Peñalvo, & Casillas-Martín, 2017; Sarfo & Yidana, 2017). According to Kakosimos (2015), additional resources including web platforms and multimedia were shown to be useful in enhancing the teaching and learning process. Additionally, it is referred to as a



second generation of web design and development that secures information sharing, collaboration, and communication on the World Wide Web (Harris & Rea 2012). Web 2.0 tools are bringing about a new revolution in the teaching and learning processes in 21st-century universities, according to Fagbola (2017).

According to Itighise and Thomas (2022), teacher candidates use Web 2.0 tools to network with other students, share their personal opinions, and encourage student-centered involvement. Lwoga (2014), on the other hand, defines perceived usefulness as the extent to which students think that utilizing technology would enhance their academic achievement. The acceptance, integration, and ongoing use of technology in teaching and learning activities are all influenced by perceived utility, according to a number of studies. Students and university staff can work together to create and share knowledge through the use of web-based instructional technology. In this sense, the acceptance and integration of web-based technologies in teaching and learning depend heavily on aspects of cooperation, communication, and involvement in knowledge generation and critique of ideas provided by others. Kazoka (2016). According to them, tools and technology offer a learning environment where students can create their own learning experiences and work together to come up with ideas. For instance, online programs provide direct communication between teachers and students. In this sense, a large number of constructivist theorists agree that technology enhances communication between people and the exchange of information. Additionally, proponents of collaborative learning think that working in groups improves students' retention of material compared to working alone. This is because students and teachers become co-authors or co-developers of concepts and materials when they use Web 2.0 tools. The researcher believes that (1) interaction, communication, and teamwork, (2) knowledge generation, (3) ease of use and adaptability, and (4) writing and technological abilities are some of the main advantages of utilizing Web 2.0 technologies in the classroom.

Similar to this, Web 2.0 apps can support active engagement in the educational process, particularly by empowering students to become producers, editors, assessors, and creators of information. The learning community in both industrialized and some developing nations has also been found to benefit from these tools. For example, they help students develop their critical thinking abilities by interacting with classmates from different nations. In addition to supporting individualized learning, the use of Web 2.0 technologies in the classroom offers a wealth of chances for students in various sectors of interest to collaborate and engage socially. Students engage, collaborate, and exchange knowledge with classmates in many places, which enhances their learning abilities. Jacob, Oluwakemi, Afe, Olusola, Ogunniran, Ayooluwa, and Jacob, (2022).

Barriers to utilizing Web 2.0 technologies in teaching, in an attempt to further explain the barriers to utilizing Web 2.0 technologies in teaching Ohei, and Brink (2019) state that, several research studies have shown that effective educator preparation is an important factor for successful adoption and for the sustainability of ICT tools usage in education. Most ICT teacher professional development initiatives tend to focus on technical aspects (i.e., how to use various tools) while pedagogical and instructional issues (i.e., why and how to use the tools to enhance learning) are often taken for granted. As a consequence, the adoption of ICT tools in educational institutes has been determined by the affordability of technology rather than by the demands of pedagogy and didactics of particular subject matter.

According to Rasheed, Kamsin, and Abdullah (2020), the incorporation of technology into education has caused some discomfort for educators, students, and institutions. For instance, because they must manage and complete their studies independently of their teachers, at their own pace, and with the use of online technology, students must possess



"self-regulation skills and technological competence." Other difficulties that teachers and students face while using Web 2.0 include a lack of technology expertise and difficulties with self-regulation. Additionally, because of their incentives and prior knowledge, students have good opportunities to engage with technologies and enhance their digital literacy. In this context, evaluating students' level of digital competency. The findings demonstrate how eager students are to engage with new technology.

Time management problems, lack of internet connectivity, limited technical infrastructure, lack of ICT skills, lack of training, ignorance of Web 2.0 learning tools, unstable power supplies, and fear of information being publicly available are some of the difficulties and obstacles associated with Web 2.0 technologies for education. According to Gaffer, Singh, and Thomas (2012), Web 2.0 users are active creators of ideas and are able to challenge and evaluate concepts and ideas in ways that were not feasible prior to the widespread use of Web 2.0 services in libraries, businesses, educational institutions, healthcare facilities, and many other fields. In developed countries, Web 2.0 is being utilised to improve communication, education, research, and the access, retrieval, and sharing of information. Web 2.0 technologies are used to facilitate academic discourse, store and share material, and handle group class assignments. The way that students participate in the learning process has altered as a result of the use of the Internet in the classroom.

Web 2.0 is characterized by two components: communication and collaboration. Students are supposed to learn from and teach one another as the source of knowledge, not the teacher, even when they never meet in person. A more constructivist, "guide on the side" pedagogy that empowers students and encourages them to take charge of and co-create their learning experience is replacing the top-down, "sage on the stage" method of instruction. Web 2.0 tools also allow the instructor to give students quick feedback on their work. The teaching-learning process of a learner seems to be particularly attracted to Web 2.0 developments, often for the social aspects of easy communication, coordination, and online self-expression. Web 2.0 innovations harmonize well with current thinking about educational practice. In particular, Web 2.0 offers students new opportunities to take control of their learning and create customized information, resources, tools, and services. Web 2.0 also encourages a wider range of expressive capabilities, facilitates more collaborative ways of working, enables community creation, dialogue, and knowledge sharing, and creates a setting for learners to attract authentic audiences.

According to Nwokike (2018), business education is instruction that enhances foundational knowledge for jobs in teaching, entrepreneurship, office comprehension, business understanding, vocational practices, and the office environment. Courses on entrepreneurship, office work, economics, and company management are all included in business education. Additionally, it seeks to provide pupils with fundamental abilities that will help them in the future. People must receive an education in order to learn about business, become capable of handling their own affairs, and contribute to society. According to some schools of thought, the goal of a business education program is to develop secondary and postsecondary teachers. Conventional schools are where most of the courses are taught.

The economic, social, political, and cultural characteristics and opportunities that come with being a woman or a man are referred to as gender, according to gender.jhpc.org (2020). What it means to be a woman, or a man is defined socially differently in different cultures and evolves over time. Gender is a sociocultural manifestation of specific traits and roles related to sex and asexuality that are linked with particular groups of individuals. The social divisions between men and women, or boys and girls, within a civilization are referred to as gender. Gender and "sex" are often used interchangeably. Despite the fundamental

differences between men and women based on sex, gender refers to the roles that are set by society and transmitted from one culture or community to another. Gender is not the only factor that influences the use of Web 2.0 technologies; other factors include the socioeconomic class of the students and teachers, the environments in which they learn and teach, the study habits of the students, the credentials and experience of the teachers, and the availability of infrastructure and facilities for instruction. The purpose of this study was to determine whether the adoption of Web 2.0 technology in business school courses has an impact on any particular gender.

Web 2.0 tools such as wikis, blogs, RSS, podcasts, and social networking are used on a daily basis by college and university students. Because today's students are expected to learn with new technologies and to prepare them for the workplace of the future, researchers think that Web 2.0 technologies should be incorporated into higher education. They also found that Web 2.0 technologies have a number of advantages for students in higher education. Within a discipline, several studies have concentrated on a single tool, such as blogs. The blogs foster reflection and higher-order learning abilities while encouraging students to read and offer peer comments. Research has shown that in addition to enhancing students' writing abilities, it also engages them and promotes group learning across a range of subject areas.

Statement of the Problem

Web 2.0 technologies encourages and enables teachers and learners to share ideas and collaborate in innovative ways. It also forces educators to rethink the way they teach and learn, and to transform education practices so that it can support more active and meaningful learning that involves best practices for the use of Web 2.0, for educational purposes. It also gives the teachers specific obligation to empower learners with major skills, knowledge, attitude and transforming learners on the needs of society. Despite the advantages of Web 2.0 technologies in enhancing learning there are problems of loss personal information, spread of fake news, internet addiction and time wastage by students and physical and mental health issues. Other problems include, inadequate lecture halls to accommodate the students, inadequate lecturers and in most cases, lecturers are overloaded with courses resulting in poor preparation and stress. Also, among the barriers to the effective use of Web 2.0 tools for instruction is the challenge of creating meaningful assignments to promote desired learning outcomes. A poorly planned assignment that has little to no connection to the course's broader goals irritates students, makes them less interested in utilizing the tool, and has little or no educational value.

This research sought to investigate the awareness and utilization of web 2.0 technologies in teaching business education courses in the universities with a view to salvage the situation in North Central Nigeria. Currently, little research has explored these issues.

Purpose of the Study

The main purpose of this study is to investigate the awareness and utilization of Web 2.0 technologies in teaching business education courses in universities. The specific purposes of this study were to:

1. examine the benefits of utilizing Web 2.0 technologies in teaching business education courses in Universities as perceived by lecturers.
2. determine the barriers to utilizing Web 2.0 technologies in teaching business education courses in Universities as perceived by lecturers.

Research Questions

The following research questions guided the study:

1. What are the benefits of utilizing Web 2.0 technologies in teaching business education courses in Universities as perceived by lecturers?
2. What are the barriers to utilizing Web 2.0 technologies in teaching business education courses in Universities as perceived by lecturers?

Research Hypotheses

The following hypotheses were formulated for the study and were tested at a 0.05 level of significance.

H₀₁: There is no significant difference in the mean response scores of respondents on the benefits of utilizing Web 2.0 technologies in teaching business education courses in Universities based on years of experience.

H₀₂: There is no significant difference between the mean response scores of male and female respondents on the barriers to utilizing Web 2.0 technologies in teaching business education courses in Universities.

Methodology

The study adopted descriptive survey design. A total of 88 Business Education Lecturers in universities in North Central Nigeria geographical zone, form the population of the study. The total population was used, it was not too large to manage hence there was no sampling. A structured questionnaire tagged: Awareness and Utilization of Web 2.0 Technologies in Teaching Questionnaire was used to elicit responses from the respondents. The instrument was validated by three experts in Business Education and Entrepreneurship Education Kwara State University, Malete. To establish the reliability of the questionnaire, Cronbach Alpha was used which gave a coefficient of 0.86. The descriptive statistics of mean and standard deviated were used to answer the research questions and mean rating of 2.50 and above was rated high-level /high extent while mean ratings below 2.50 was rated low-level/ low extent. On the other hand, the null hypotheses were tested at a 0.05 level of significance using the Independent Samples t-test.

Results

Answering the Research Questions 1

Table 1: Mean and standard deviation of responses on the benefits of utilizing Web 2.0 technologies in teaching

S/N	Item Statements	\bar{X}	SD	Remark
1.	Web 2.0 technologies enable users to collaborate on projects.	3.32	0.59	Strongly Agree
2.	It encourages students to take ownership of their learning by empowering them while they use Web 2.0 tools.	3.35	0.75	Strongly Agree
3.	Utilizing Web 2.0 tools in the classroom encourages communication between teacher and students.	3.34	0.55	Strongly Agree
4.	It encourages information literacy while using Web 2.0 in the classroom.	3.32	0.65	Strongly Agree
5.	It improves the learner's ability to express creativity through multimedia and creativity.	3.14	0.61	Agree
6.	If used properly, it promotes problem-solving	3.33	0.67	Strongly Agree

	and active learning.			
7.	Web 2.0 technologies foster cross-cultural understanding and worldwide connections.	3.29	0.62	Strongly Agree
8.	Web 2.0 technologies help in bridging In-Class and Out-of-Class learning gaps.	2.85	1.04	Agree
9.	Teaching students about appropriate online conduct, digital ethics, and online safety, promotes digital citizenship and online safety.	3.01	0.82	Agree
10.	Web 2.0 platforms enable teachers to provide immediate feedback.	2.87	0.59	Agree
Weighted average		3.18	0.69	Agree

Source: Field Survey, 2024

Table 1 shows that all the 10 item constructs have standard deviation ranging from 0.55 to 1.04. This means that the responses of the respondents are not widespread as they are close to the mean. Table 1 shows a grand calculated weighted average mean and standard deviation of 3.18 and 0.69, which indicate that lecturers agreed that the constructs in Table 1 are the benefits of utilizing Web 2.0 technologies in teaching business education courses in universities (mean = 3.18, SD = 0.69).

Research Question 2: What are the barriers to utilizing Web 2.0 technologies in teaching business education courses in universities as perceived by lecturers?

Table 2: Mean and standard deviation of responses on the barriers of utilizing Web 2.0 technologies in teaching

S/N	Item Statements	\bar{X}	SD	Remark
1.	Lack of training programs on the use of Web 2.0 in education.	3.03	0.86	Agree
2.	No desire to incorporate Web 2.0 into the classroom.	3.00	0.80	Agree
3.	Lack of a long-term strategy for creating and implementing Web 2.0 tools in educational processes.	3.22	0.67	Agree
4.	Slow internet for downloading files and web pages.	2.86	0.71	Agree
5.	The use of Internet applications is expensive.	3.19	0.82	Agree
6.	Insufficient time to study Web 2.0 tools.	3.15	0.85	Agree
7.	The problem of identity, trust, and privacy.	2.81	0.66	Agree
8.	Lack of awareness of Web 2.0 technologies.	2.96	0.87	Agree
9.	Lack of motivation form government/administrator to lecturers.	3.11	0.64	Agree
Weighted average		3.04	0.76	Agree

Source: Field Survey, 2024

Table 2 shows that all the nine item constructs have standard deviation ranging from 0.64 to 0.87. This means that the responses of the respondents are not widespread as they are close to the mean. Table 2 shows a grand calculated weighted average mean and standard deviation of 3.04 and 0.76, which indicate that lecturers agreed that the constructs in Table 2 are the barriers of utilizing Web 2.0 technologies in teaching business education courses in universities (mean = 3.04, SD = 0.76).

H₀₁: There is no significant difference in the mean response scores of respondents on the benefits of utilizing Web 2.0 technologies in teaching business education courses in universities based on years of experience.

Table 3: ANOVA analysis of the benefits of utilizing Web 2.0 technologies in teaching

Years of Experience	N	Mean	SD	F	Df	Sig.	Decision
1-5 years	26	3.81	0.31	50.770	3, 75	0.00	Rejected
6-10 years	14	3.07	0.11				
11-15 years	10	3.34	0.22				
16 years and above	29	2.62	0.49				
Total	79	3.18	0.61				

Source: Field survey, 2024

The result of analysis of variance as presented in Table 3 reveals that the calculated value of F was 50.770 ($F_{3,75} = 50.770$) and the observed probability value is 0.00 which is less than the fixed probability value of 0.05 ($P < 0.05$).

This indicates that the null hypotheses which states that, there is no significant difference in the mean response scores of respondents on the benefits of utilizing Web 2.0 technologies in teaching business education courses in universities based on years of experience was rejected ($F_{3,75} = 50.770$; $P < 0.05$).

This implies that respondents based on years of experience differ significantly in their responses regarding their perception of the benefits of utilizing Web 2.0 technologies in teaching business education courses in universities.

H₀₂: There is no significant difference between the mean response scores of male and female respondents on the barriers to utilizing Web 2.0 technologies in teaching business education courses in universities.

Table 4: Independent samples t-test analysis of barriers to utilizing Web 2.0 technologies in teaching

Gender	N	Mean	SD	t-cal	Df	p-value	Decision
Male	48	3.42	0.45	8.87	77	0.00	Rejected
Female	31	2.45	0.51				

Source: Field survey, 2024

$P < 0.05$

Data in Table 4 reveal that there are 48 male respondents and 31 female respondents. The male and female respondents agreed on the barriers to utilizing Web 2.0 technologies in teaching business education courses in universities ($\bar{x} = 3.42$; $SD = 0.45$) and ($\bar{x} = 2.45$; $SD = 0.51$). Their responses are close to the mean as the standard deviations are very low. The table reveals that there is a significant difference between the mean response scores of male and female respondents on the barriers to utilizing Web 2.0 technologies in teaching business education courses in universities ($t_{77} = 8.87$, $P < 0.05$).

Therefore, the null hypothesis that states that there is no significant difference between the mean response scores of male and female respondents on the barriers to utilizing Web 2.0 technologies in teaching business education courses in universities was rejected.

This implies that respondents' responses differ significantly. Their responses show that the male respondents rated the barriers to utilizing Web 2.0 technologies in teaching business education courses in universities higher than the female respondents (mean difference = 0.97).

Discussion of findings

In Table 1 it was found that Lecturers agreed that the constructs in Table 1 are the benefits of utilizing Web 2.0 technologies in teaching business education courses in universities (mean = 3.18, SD = 0.69). The study also found in Table 3 that there was significant difference in the mean response scores of respondents on the benefits of utilizing Web 2.0 technologies in teaching business education courses in universities based on years of experience was rejected ($F_{3,75} = 50.770$; $P < 0.05$). These findings corroborate with that of Ayooluwa, Ogunniran, Afe and Olusola (2022) who stated that most of the respondents identified acquiring knowledge and innovative ideas, enhancing learning ability, aiding effective management of acquired information, improved academic performances, timely access to information, development of skills and capabilities for collaboration, sharing of information content and online access to learning resources as some of the benefits they have derived from the use of Web 2.0 technologies for learning. All of these tools are Web 2.0 platform, and each captures the essence of different pedagogical elements for teaching where have been documented in the literature, such as content sharing, assessing student performance, communicating and collaborating with students, and audio/video recording lecture sessions (Velagapudi, 2013).

The study also found that Lecturers agreed that the constructs in Table 2 are the barriers of utilizing Web 2.0 technologies in teaching business education courses in universities (mean = 3.04, SD = 0.76). The study further reveals in Table 4 that there was significant difference between the mean response scores of male and female respondents on the barriers to utilizing Web 2.0 technologies in teaching business education courses in universities ($t_{77} = 8.87$, $P < 0.05$). This finding is in line with Donaldson (2021) who showed that lecturers regardless of age or experience, can develop positive attitudes towards the adoption of technology-enhanced learning. The interview data however indicates that the majority of participating educators are still at the start of their journeys to transformation through technology as illustrated by interviewees who stated: "It surprised me that I hadn't gone as far up the scale as I'd expected" and "If I'm honest, it's Substitution". This basic degree of technology integration is not unusual. Fernández-Suárez et al. (2021) stated that teachers' inadequacies in technology integration were in parallel with their perceptions of professional burnout.

Conclusion

Based on the findings of this study, it was concluded that the level of lecturers' awareness of Web 2.0 technologies used in teaching business education courses is high. This mean that majority of the lecturers are found of utilizing the technologies. Which could be used in teaching if the institution permits the system of utilizing technologies for teaching, and as well assist the lecturers and students to ease the mental and physical health challenges caused as a result of lack of lecture hall to accommodate the students. There by creating an atmosphere of receiving lecturers any time any place within the globe 24/7 no interruption. By this in order to develop more on the aspect of Web 2.0 technologies, the benefits of utilizing should be considered, and the lack of motivation from the stakeholders to lecturers and slow internet challenges should be look into so that it will promote problem solving and active learning, help in bridging in class and out of class learning gaps and platforms enable teachers to provide immediate feedback.

Recommendations

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

1. The benefits of Web 2.0 technologies should be promoted by the curriculum developer, Universities, stakeholders and lecturers in order to promote the use technologies in teaching.
2. The management of the universities should look into the barriers in electricity supply and free internet connectivity by providing free speedy internet connection and 24/7 electricity/solar power supply (adequate power supply) so as to enable continuous teaching through the use of Web 2.0 technologies.

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