IMPLEMENTATION OF WEB 2.0 IN THE IMPROVEMENT OF TEACHING AND LEARNING OF ENGLISH GRAMMAR IN FEDERAL UNIVERSITIES IN SOUTH-EAST, NIGERIA

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Abstract

This study focused on the implementation of Web 2.0 in improving teaching and learning of English grammar in federal universities in South-East, Nigeria. The design adopted for this study is a descriptive survey. All the first year English language student-teachers comprised the population of the study while a total number of 150 students and 9 lecturers were sampled using multistage sampling technique. A questionnaire titled Recognition of Web 2.0 (RW2.0) was used for data collection. The instrument was face-validated and its internal consistency was determined through the use of Cronbach Alpha Statistics. Mean and standard deviation were used to answer the research questions, while t-test statistics was used to test the hypotheses at 0.05 level of significance. The findings of this study reveal among others that both the English language student-teachers and their lecturers perceive Web 2.0 as a technological tool that can be used to improve the teaching and learning of English grammar. However, the technology is used at a very low extent for grammar instruction. It was therefore, recommended among other things that policy makers should make policy statements that will encourage and motivate the lecturers and the English language student-teachers to make use of Web 2.0 in the teaching and learning of English grammar.

Keywords: Web 2.0, English grammar, federal universities, South-East

Introduction

The rapid advancement in Information and Communication Technology (ICT) in recent years has affected the world of education, including the field of language education. The use of technology in educational settings can increase motivation, decrease anxiety, foster more student-centered activities, provide students with authentic materials and audiences (Erben, 2013). When considered in the field of language education, the potential of new technologies is limitless (Seljan, Banek, Spiranec & Lasic-Lazic, 2006). The use of technology generally improves teaching and learning. The advancement in technology has been revolutionizing the way teachers teach their students (Wells, de Lange & Fieger, 2008). As a result, English language teachers are taking innovative steps to integrate technology into their teaching environments. They have wide varieties of choices for integrating technology into their language classes. One of these choices is the use of Web 2.0 technologies. Web 2.0 is a collection of web based applications which create and facilitate collaboration and interactions among people. It is a web technology that aims at enhancing creativity, information sharing and collaboration among users (Tu, Blocher & Ntoruru, 2008). Web 2.0 is a collection of web-based technologies where users collaborate and interact freely (McGee

& Begg, 2008). Abid (2018) notes that Web 2.0 is a powerful communication and socialization tool. The most common Web 2.0 tools according to Baro, Edewor and Sunday (2018) include wikis, online quiz, blogs, avatars, comic books, digital storytelling, online poster, Skype, Multi User Virtual Environment (MUVE) and social networking sites. Significant gains of using Web 2.0 for instruction according to Weller (2013) are that it can be accessed on different devices such as tablets, Smartphone, iPod, among others; and that many of the tools can be accessed anywhere in the world.

Web 2.0 technologies can create a more student-centered language learning environment since they allow students to become creators of their own knowledge rather than being passive recipients of information (Rdouan, 2018). Traditionally, technology has been used by English language teachers in order to provide language input through texts, videos, and informational websites, but with the emergence of Web 2.0 technologies, learners interpret contents and produce works that show evidence of understanding the language, as well as students' achievement in English. There have been many studies conducted to explore the use of Web 2.0 tools in language teaching settings, and the key element in the studies is that they provided students opportunities to practice both their oral and written English in meaningful and authentic situations. For instance, a study carried out by Yang and Chang (2008) reveals that students use Skype to practice English to great effect. There are a number of studies on the use of Web 2.0 tools for teaching and learning, especially in higher institutions. This could be attributed to the fact that digital revolution, according to Ossai, Eze and Obayi (2020) is making great impact in education, especially in higher education. This study which focuses on implementations of Web 2.0 in the teaching and learning of English grammar will add to the existing literature on Web 2.0 and language learning. This is because the implementation of the Web technology will create a safe learning space and facilitate personalized learning opportunity for language learners.

Language is an essential tool used by humans on daily basis to express themselves. For one to make effective use of language, one has to acquire the four basic language skills. The language skills - listening, speaking, reading and writing, which are regarded as communication skills by Polong, Collates and Torres (2020) are important for they enable language users engage in effective verbal and non-verbal communications. The relevance of communication to human beings necessitates that language, which is a tool used for communication should be given keen attention at various levels of education. In school, especially secondary and tertiary institutions, the benefits and uses of Web 2.0 in the language classroom have been widely recognized. Curwood (2010) explains that it is used as a motivator for students to engage in collaboration and communication in language classes. Web 2.0 offers innovative ways to interact with a variety of language texts and aural input. Due to the relevance of using Web 2.0 technologies in language classrooms, it is important for English language student-teachers and their lecturers to become technologically competent in order to recognize, choose, utilize and implement appropriate Web 2.0 technologies for effective teaching and learning of grammar. In this context, grammar is explained as a systematic way of accounting for, and predicting an ideal speaker's or hearer's knowledge of the language. The knowledge of a language could be predicted through a set of rules or principles that guide the production of well-formed and grammatical utterances in the

language (Purpura, 2015). English grammar is therefore, the way in which meanings are encoded into wordings in the English language. This includes the structure of words, phrases, clauses, sentences and whole texts. Hence, it can be concluded that the function of English grammar is to produce correct sentences and to combine correct sentences in conversation, both in written and oral forms. English language student teachers can be helped to learn how to produce correct sentences, combine them effectively in real life communication, and also impart the knowledge on other learners of English with effective utilization of Web 2.0 tools.

Utilization is the act of making use of resources to achieve a particular goal.   It is defined by Amalu (2015) as the process of using objects in educational practice for its improvement. Web 2.0 technology, can be utilized in education to improve teaching and learning for it helps in management of electronic files, creating and publishing documents, assessing, and providing feedback to learners. It can be effectively utilized in education for it aids access to online materials and helps in selecting and customizing instructional materials to meet the needs of learners. Due to the relevance of modern technologies such as Web 2.0 in education, the Federal Ministry of Education (2019) in the national policy on information and communication technologies in education states that government shall build and encourage the development, and utilization of the ICT manpower required to achieve an ICT-enhanced education. This is important because despite the relevance of ICT devices in language teaching and learning, Warschauer and Meskill (2000) opine that the key to successful use of technology in language teaching lies not in hardware or software but in "human-ware." That is, human capacities to design, plan, and implement effective educational activities. It therefore, means that Web 2.0 technology can only be useful and effective in the teaching and learning of English grammar if the lecturers and the students are aware of the technology and possess the skills needed to make good use of the technology. Take for instance, a lecturer who is not aware of the technology cannot select appropriate Web 2.0 tools for engaging the learners in different learning activities. Okolocha, Ile and Okolocha (2012) note that for teachers to apply on-line delivery of instruction they must be aware of the hi-tech tools so as to be able to utilize the tools effectively in teaching and learning process. Okpara (2014) learnt credence to this by stating that it is the responsibility of educators to seek ways of using technology to compliment instruction, monitor changes in technology and determine whether a particular technological tool appeals to learners. Educators can only seek ways of making effective use of Web 2.0 if they have positive perception about the use of the technology in pedagogical processes. Perception refers to the way in which something is regarded, understood and interpreted by humans. Obi, Newen and Ogboji (2017) defined perception as judgment made on people, things and life situation. Perception of learners makes a lot of impact in the process of teaching and learning (Etuk, Atangide & Uya, 2013). This is so because learners' perception is capable of influencing their attitudes towards learning, either positively or negatively. In line with this, Ditual (2012) explains that learners' attitudes towards learning of English language affect their learning of the language. Hence, the knowledge of perception of learners and their attitudes to learning is essential for it motivates the educators to adjust and improve their teaching strategies. Perception of educators about teaching methods, instructional materials and media is also a vital issue for it is capable of affecting the pedagogical interest. People have different perceptions about the use of web 2.0

technologies. Some people are of the view that it leads to decline in social skill since it makes face to face interaction and communication difficult. Decline in such interaction breeds loneliness and low self-esteem, and leads to poor communication skill. However, others believe that the use of web for communication helps learners to socialize with others in their comfort zones.

This study will be of great significant to English language student-teachers and lecturers. The findings will call their attention to the usefulness of Web 2.0 tools in grammar classes to improve the teaching and learning of English grammar. The findings of this study will also validate Ajzen's theory of planned behavior (1985). This theory posits that normative belief, attitudes, and perceived behavioural control, among others shape individual's behavior. The theory is related to this study which seeks to explore the recognition of web 2.0 tools in the teaching and learning of English grammar. This is because the attitude, belief and perception of English language student-teachers and lecturers will determine whether they will recognize and implement web 2.0 tools in the process of teaching and learning of English grammar. Considering the benefits of Web 2.0 tools in pedagogical process, it suffices to say that if the lecturers and English language student-teachers are aware of the technological tools, and implement them in grammar classes, the student-teachers will acquire good knowledge of grammar.

Research Questions
The study was guided by the following research questions:
1. To what extent are English language student-teachers and lecturers aware of Web 2.0 tools?
2. What is the perception of English language student-teachers and lecturers on the use of Web 2.0 tools for teaching and learning of English grammar?
3. To what extent do English language student-teachers and lecturers implement Web 2.0 tools in teaching and learning of English grammar?

Hypotheses
The following Hypotheses also guided the study and they were tested at 0.05 level of significance:
1. There is no significant difference in the mean responses of English language student-teachers and lecturers' awareness of Web 2.0 tools.
2. There is no significant difference in the mean perception scores of English language student-teachers and lecturers on the use of Web 2.0 tools for teaching and learning of English grammar.
3. There is no significant difference in the mean responses of English language student-teachers and lecturers on implementation of Web 2.0 tools in teaching and learning of English grammar.

Methodology
Descriptive survey design was used to carry out the study. The study was conducted in federal universities in South-East, Nigeria and all the first year English language student-teachers and their lecturers constituted the population of the study. A sample size of 150

students and 9 lecturers were selected for the study through multistage sample sampling technique. At the first stage, purposive sampling technique was used to select three federal universities where English language student-teachers are trained. At the second stage, simple random sampling technique was used to select 50 students from each of the federal universities. The instrument used for data collection was a question produced by the researchers which is titled "Questionnaire on Implementation of Web 2.0 (QIW2.0). The instrument had two sections. Section A was used to get demographic information from the respondents while section B contained questionnaire items which were constructed on a 4 point Likert rating scale of Very High Extent (VHE), High Extent (HE), Low Extent (LE), Very Low Extent (VLE); and Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) with the numerical values of 4, 3, 2 and 1 respectively. The questionnaire was subjected to face validation by three experts, two in the department of Arts Education (Language Education Unit) and one in the Department of Science Education (Measurement and Evaluation Unit) in the Faculty of Education, University of Nigeria, Nsukka. This was done to confirm whether the items are adequate and correct to be used to collect data to answer the research questions and test the hypotheses. The reliability of the instrument was determined using Cronbach's Alpha Statistics and an internal consistency reliability index of 0.86 was obtained. The instrument was administered by personal contacts and collected immediately after completion by the researchers. Mean score and Standard Deviation were used to answer the research questions, while t-test was used to test the hypotheses at 0.05 level of significance. The benchmark for decision taking for the mean scores is 2.50.

Results

Research question one: To what extent are English language student-teachers and lecturers aware of Web 2.0 tools?

Table 1: Mean rating and Standard Deviation showing English language student-teachers and lecturers' awareness of Web 2.0 tools.

S/N	ITEM STATEMENT: Extent of awareness of the following web 2.0 tools	Lecturers			Students		
		$\bar{x}_1$	SD_1	Decision	$\bar{x}_2$	SD_2	Decision
1	Skype	1.23	0.45	Low Extent	2.64	0.37	High Extent
2	Digital Storytelling	1.02	0.52	Low Extent	2.50	0.33	High Extent
3	Multi User Virtual Environment (MUVE)	1.28	0.53	Low Extent	2.11	0.41	Low Extent
4	Wikis	3.00	0.39	High Extent	2.79	0.49	High Extent
5	Online Quiz	1.31	0.52	Low Extent	2.20	0.39	Low Extent
6	Social Networking Sites	3.94	0.41	High Extent	3.33	0.57	High Extent
7	Avatar	1.42	0.54	Low Extent	2.16	0.34	Low Extent
8	Comic Generators	1.22	0.43	Low Extent	2.15	0.42	Low Extent
9	Blog	2.90	0.47	High Extent	2.71	0.46	High Extent
10	Online Poster	1.31	0.57	Low Extent	2.41	0.35	Low Extent
	Grand Mean	**1.99**	**0.31**	**Low Extent**	**2.50**	**0.35**	High Extent

Table 1 shows that the mean ratings of lecturers and English language student-teachers awareness of Web 2.0 tools are 1.99 and 2.50 respectively. The lecturers are aware of items 4, 6, and 9. This is because the mean ratings are more than 2.50; but they are not aware of items 1, 2, 3, 5, 7, 8, and 10 since the mean ratings are less than 2.50. The result also reveals that the student-teachers are aware of items 1, 2, 4, 6, and 9, but they are not aware of items 3, 5, 7, 8, and 10. The grand mean of 2.50 shows that the extent to which English language student-teachers are aware of Web 2.0 is high, while the grand mean of 1.99 reveals that the extent to which lecturers are aware of Web 2.0 is low.

Hypothesis 1: There is no significant difference in the mean responses of English language student-teachers and lecturers on their awareness of the use of Web 2.0 tools.

Table 2: t-test analysis of the mean ratings of the responses of English language student-teachers and lecturers on extent of awareness of Web 2.0 tools.

	N	$\bar{x}$	SD	Df	t-cal	P-value	Sig	Decision
Lecturers	09	1.99	0.31				0.05	Significant
				157	5.16	0.00		
Students	150	2.50	0.35					

Results in table 2 indicate that the t-cal (5.16) for the difference in the mean responses of has an associated probability value of 0.00. Since the probability value of 0.00 is less than the apriori level (0.05), the null hypothesis was rejected. Hence, there is significant difference in the mean responses of English language student-teachers and lecturers on extent of awareness of Web 2.0 tools.

Research question two: What is the perception of English language student-teachers and lecturers on the use of Web 2.0 tools for teaching and learning of English grammar?

Table 3: Mean and Standard Deviation showing the perception of English language student-teachers and lecturers on the use of Web 2.0 in teaching and learning of English grammar.

S/N	Item Statement	Lecturers			Students		
		$\bar{x}_1$	SD_1	$\bar{x}_1$	SD_1	$\bar{x}_1$	SD_1
1	It enhances group discussion in grammar classes.	3.50	0.84	Agree	3.30	0.53	Agree
2	It facilitates self-paced learning of English grammar.	3.33	0.81	Agree	3.44	0.66	Agree
3	It motivates learners to participate actively in grammar class.	2.69	0.75	Agree	3.37	0.55	Agree
4	It introduces distraction in the learning process.	2.30	0.70	Disagree	2.09	0.69	Disagree
5	It lowers inhibition thresholds for asking questions during grammar instruction.	3.16	0.73	Agree	3.39	0.57	Agree

6	It inhibits grammar learning since it makes face to face interaction difficult	1.09	0.62	Disagree	2.24	0.70	Disagree
7	It helps lecturers to present grammar lessons in unique ways.	3.59	0.72	Agree	3.34	0.54	Agree
8	It promotes lifelong learning of English grammar.	3.52	0.78	Agree	3.35	0.60	Agree
9	It makes the assessment of learning outcome easier.	3.62	0.86	Agree	3.34	0.56	Agree
10	It provides opportunity for learner-centered learning of English grammar.	3.59	0.79	Agree	3.51	0.67	Agree
	Grand Mean	**3.45**	**0.76**	**Agree**	**3.23**	**0.58**	**Agree**

Table 3 shows that the grand mean ratings of lecturers and English language student-teachers' perception of the use of   Web 2.0 in teaching and learning of English grammar are 3.45 and 3.23 respectively. This indicates that both the lecturers and student-teachers have positive perceptions about the use of Web 2.0 in teaching and learning of English grammar.

Hypothesis 2: There is no significant difference in the mean perception scores of English language student-teachers and lecturers on the use of   Web 2.0 tools for teaching and learning of English grammar.

Table 4: t-test analysis of the mean ratings of English language student-teachers and lecturers' perception of the use of Web 2.0 tools in teaching and learning of English grammar.

	N	x̄	SD	Df	t-cal	P-value	Sig	Decision
Lecturers	09	3.45	0.76					Not
				157	-1.03	0.12	0.05	Significant
Students	150	3.23	0.58					

Data on table 4 shows the summary of t-test on the mean ratings of English language student-teachers and lecturers' perception of the use of Web 2.0 tools in teaching and learning of English grammar. The P-value of 0.12 is greater than the significant level of 0.05 showing that the null hypothesis was accepted. Hence, there is no significant difference in the mean perception scores of English language student-teachers and lecturers on the use of   Web 2.0 tools for teaching and learning of English grammar.

Research Question three: To what extent do English language student-teachers and lecturers implement   Web 2.0 tools in teaching and learning of English grammar?

Table 5:   Mean and Standard Deviation on English language student-teachers and lecturers' implementation of Web 2.0 tools in teaching and learning of English grammar.

S/N	Extent of implementation of the following Web 2.0 tools in teaching and learning of English grammar.	Lecturers			Students		
		$\bar{x}_1$	SD_1	$\bar{x}_1$	SD_1	$\bar{x}_1$	SD_1
1	Skype	1.09	0.36	Low Extent	1.28	0.45	Low Extent
2	Digital Storytelling	1.20	0.32	Low Extent	1.23	0.52	Low Extent
3	Multi User Virtual Environment (MUVE)	1.04	0.40	Low Extent	1.02	0.53	Low Extent
4	Wikis	2.49	0.49	High Extent	2.31	0.38	High Extent
5	Online Quiz	2.00	0.39	Low Extent	1.51	0.54	Low Extent
6	Social Networking Sites	3.32	0.56	High Extent	3.94	0.41	High Extent
7	Avatar	1.17	0.33	Low Extent	1.71	0.66	Low Extent
8	Comic Generators	1.36	0.41	Low Extent	1.10	0.41	Low Extent
9	Blog	2.41	0.46	High Extent	2.40	0.47	High Extent
10	Online Poster	1.33	0.35	Low Extent	1.50	0.57	Low Extent
	Grand Mean	**1.30**	**0.39**	**Low Extent**	**1.36**	**0.42**	**Low Extent**

This table shows that Web 2.0 tools are not implemented in teaching and learning of English grammar. This is revealed by the grand means of 1.30 and 1.36 which are below the bench mark of 2.50 for decision taking. The mean ratings show that the extent of implementation of Web 2.0 tools by both the lecturers and the English language student teachers in teaching and learning of English grammar is low.

Hypothesis 3: There is no significant difference in the mean responses of English language student-teachers and lecturers on implementation of   Web 2.0 tools in teaching and learning of English grammar.

Table 6: t-test analysis of the mean ratings of the responses of English language student-teachers and lecturers on extent of implementation of Web 2.0 tools in teaching and learning of English grammar.

	N	$\bar{x}$	SD	Df	t-cal	P-value	Sig	Decision
Lecturers	09	1.30	0.39					Not Significant
				157	0.602	0.549	0.05	
Students	150	1.36	0.42					

Results in table 6 reveal that the t-cal (0.602) for the difference in the mean responses of English language student-teachers and lecturers on extent of implementation of Web 2.0 tools in teaching and learning of English grammar has an associated probability value of 0.055. Since the probability value of 0.055 is greater than the apriori level (0.05) the null hypothesis

was accepted. Hence, there is no significant difference in the mean responses of English language student-teachers and lecturers on implementation of   Web 2.0 tools in teaching and learning of English grammar.

Discussion of findings

The findings of the study with respect to the first research question indicate that the extent to which lecturers are aware of Web 2.0 tools such as Skype, digital storytelling, multi user virtual environment, online quiz, avatar, comic generators and online poster is low. This could be as a result of the fact that most of these web tools are new technologies. It could also be attributed to the fact that they do not explore the net to keep abreast of new developments in Web 2.0 technology. The findings also reveal that the lecturers are aware of wikis, social networking sites, and blog to a high extent. This is possibly because they are the most commonly used web 2.0 tools. The extent of awareness of Web 2.0 tools by English language student teachers on the other hand is high. The fact that English language student-teachers are aware of web 2.0 tools more than the lecturers could be as a result of the fact that the students explore the internet regularly and always get in touch with new developments in web technology.

The findings of this study are in line with that of Baro, Edwor and Sunday (2014). The researchers found out that Africans are mostly familiar with Web 2.0 tools such as blog and social networking sites. The findings of Abid (2018) which reveal that young people make more use of Web 2.0 applications are also in line with the findings of this study which show that the English language student teachers, who are younger than the lecturers are more aware of Web 2.0 tools than their lecturers. With reference to the first hypothesis, the findings show a significant difference in the responses of lecturers and English language student teachers on extent of awareness of Web 2.0 tools.

In line with the second research question, the findings revealed that both the lecturers and the English language student-teachers have positive perception about the use of   Web 2.0 tools for teaching and learning of English grammar. They are of the view that Web 2.0 promotes lifelong learning of English grammar, makes assessment of learning outcome easier and provides opportunity for learner-centered learning of English grammar, and do not inhibit grammar learning. The fact that Web 2.0 tools are interactive in nature could have contributed to their positive perception about the use of the technologies in teaching and learning of English grammar. This is because interactivity promotes learning in general. These findings agree with the findings of Rdouan (2018) that instructors have positive perception of the use of Web 2.0 tools in language teaching. The findings of this study with respect to second hypothesis show that the probability value is greater than the apriori level and the null hypothesis was accepted. This means that there is no significant difference in the mean perception scores of English language student-teachers and lecturers on the use of Web 2.0 tools for teaching and learning of English grammar.

Findings made on research question three show that the only Web 2.0 tool implemented by the English language student-teachers and lecturers in teaching and learning of English grammar is the social networking sites. This could be because social networking sites are popularly used for communication. The findings of Baro, Edewor and Sunday (2014)

that one of the most frequently used Web 2.0 tools is social networking sites. The findings however, differ from that of Rdouan (2018). The researcher found out that students and instructors are immersed in web applications and make use of them for personal and educational reasons. Again, the findings of this study with reference to the third hypothesis show that despite the fact that the mean rating of the student-teachers is higher than that of lecturers, there is no significant difference in their responses on implementation of   Web 2.0 tools in teaching and learning of English grammar.

Conclusion

This study which focused on the implementation of Web 2.0 in improving the teaching and learning of English grammar reveals that while the lecturers are aware of Web 2.0 technology to a low extent, the English language student-teachers have a high level of awareness of the technology. The study also shows that both the English language student-teachers and their lecturers perceive Web 2.0 tools as technological tools that can be used to improve the teaching and learning of English grammar.   However, the technological tools are implemented to a low extent in grammar instruction. This study therefore, recommends among other things that the university administrators should help the lecturers gain more awareness of Web 2.0 technology by organizing workshops and seminars for them. The study concludes that since both the English language student-teachers and their lectures have positive perception about Web 2.0 tools in teaching and learning of English grammar, the improved awareness of the technological tools and their implementation will invariably improve grammar pedagogy in federal universities in South East, Nigeria.

Recommendations

Based on the findings of this study, the following recommendations are made:
1. The university administrators should help the lecturers and English language student teachers gain more awareness of Web 2.0 technology by organizing workshops and seminars for them.
2. Policy makers should make policy statements that will encourage and motivate the lecturers and the English language student-teachers to make use of Web 2.0 in teaching and learning of English grammar.

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