

# The Internet as a Tool for Interactive Learning, Teaching and Research: Nigerian Experience

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**Abstract**—The paper examines the usefulness of the Internet as a tool for interactive learning, teaching and research in Nigeria. It further exhibited the impact of the Internet in advancing research, teaching and learning abilities and techniques of the researchers, teachers and students respectively. Survey research method was employed. Questionnaire was the main instrument utilized for data collection. The findings of the study exhibits that a number of teachers and students are aware of the benefit of the Internet as a tool for interactive learning, teaching and research; the study shows that the respondents lacked access in their schools and colleges. Only 40% of the respondents make use of the Internet for Interactive learning. In addition to this 50% of the teachers only use it for interactive research. None of the teachers used it for interactive teaching.

**Index Terms**—Interactive learning, Internet, Nigeria, Research

## I. INTRODUCTION

There is an already recognized fact that the need for educational experiences is rapidly growing, the development of technology is rapidly changing the phase of education to which teaching, research and learning are taking new dimensions. Therefore the flexibility provided by the Internet technology becomes especially important [1]. stated that "In its capacity as a tool, Internet is but a ripple on the surface of our educational institutions. In its capacity as intellectual challenge, it is without precedent in the educational history of mankind." He further explains that the importance of the Internet in education, particularly using its Web is a well-recognized fact. A wealth of resources and techniques now exist which serve as a source both for exciting examples of new teaching practices, as well as easily accessible methods for adoption into various formats of teaching, research and learning. Internet technology allow teachers and students keep up with their minds. It let them try their ideas as soon as they come up with them. Similarly, the Internet provides learning, teaching and research which involve interactions, either with students, teachers, the environment, or the learning material. In online learning, interactions often, but not always, involve multimedia.

Internet information resources are fast seeping into the common consciousness of Nigerian academia, taking their place alongside with traditional academic resources in core research assignments. Lecturers incorporate the Internet through such techniques as posting course syllabi and readings on the Web, using interactive course design packages such as WebCT and FirstClass, and using communication tools i.e. chat software and Web bulletin boards. The eagerness with which many instructors approach integrating Web research tools and technology

into their courses provides a significant opportunity for collaboration and interaction with teachers, students and researchers.

## II. INTERNET AS A TOOL FOR INTERACTIVE LEARNING, TEACHING AND RESEARCH

With the rapid growth of the Internet, many educational institutions began to use Web as a new medium to assist the teaching, research and learning activities. According to a survey conducted by Market Data Retrieval, in Shelton, Conn.: Out of 2,000 colleges, 72% offered online courses in 1999-2000, compared with 48% in 1998-1999. [2]. Using the Internet in teaching and research makes the communication between the students and the instructor more convenient and interesting. Especially, using Web in teaching and research makes it available for the students who prefer or require to learn outside the classroom to study at their convenient time and place. The Web has already been one of the most popular mediums for the deliverance of the course information.

Furthermore, because of the attractive characteristics of the Internet, some University instructors are trying to use Web to assist in interactive teaching, research and learning in recent years. The use of Web for interactive teaching and learning is relatively recent. The first materials appeared in the early 90s. The impact, however, has been considerable, mainly because the technology has advantages over the previous generations of Computer Assisted Language Learning by being cheaper and easier to develop and often cheaper and easier to run, and by offering real possibilities for authentic interaction. Recently, one of the most exciting developments in instruction has been the use of computer technology to assist teaching and learning, particularly the Internet technology [3]. Some universities, such as Carnegie Mellon University, Seattle University, and Kenyon College have done a lot of researches to explore the educational value of Web in interactive teaching, research and learning [4],[5], [6].

The Internet will make a huge contribution to leisure in the educational system. It will help students develop and exploit their own imaginative and intellectual capabilities. In this way it can aid continuing self-education. It will make it easier and more efficient for students and teachers and school and college authorities to request information from colleagues in and outside Nigeria. It will facilitate collaboration and interaction among students and teachers. These collaborative efforts promote information sharing, guides learning, and help to integrate learning experiences. To sum up the application of the Internet in schools and colleges will facilitate the following:

- negotiating links with other schools and colleges at departmental level;
- submitting research papers, proposals and reports and coordinating research for staff on study leave overseas;
- making library contacts and discussing issues pertinent to these institutions with regard to provisions and services;
- providing access to e-mail and files;
- publicising educational institutions to order to seek funds for projects and research; and,
- Applying for further studies overseas and ordering equipment from suppliers outside the country.

Academic mailing lists and newsgroups have been adopted as tools for informal communication between researchers. Despite the large number of predictions there is a clear lack of general data to help judge the validity of these expectations [7]. What is missing is data that shows how a variety of different researchers, and not just some specialized user groups, use information technology [8]. This should help to evaluate whether and how researchers in general profit from the Internet.

In the past, University instructors always gave the students a lot of handouts. Nowadays, many instructors use Web as a good mean to help them organize course information, to deliver the information to the students. They gather relevant course information, including schedule, assignment, study guides, and syllabus and put them on the course Website. The communication between the students and the instructor can occur either synchronously or asynchronously. Both the instructors and the students no longer need to be time bound. The students don't need to be required to meet with teachers or classmates in a specific time. They can learn anytime of the day or night. The instructor can communicate with the students using email, discussion board and on-line chat at any convenient time. Also, the students and the instructors need not be place bound; access can be from wherever there is an Internet access.

In addition, because of the available information on the Web, students at one university have the opportunity to take a course at another university [9]. Also, Web-based education can help people who don't have the energy or physical ability to go to a campus to study [10]. Using technology also make it easier for the instructors to organize the course an update the course information.

When we are learning, and teaching, there are four (4) basic communicative skills: listening, speaking, reading and writing. The power of the Internet provides the students with a lot of materials to practice the commutative skills. There are endless text-based materials for reading practice; it's also available for the students to listen to the news from a target language country online since a large amount of audio files are accessible. If the instructor can prepare some interactive video material based on the student language proficiency and put them on Web, learning will be more interesting than ever and it can make the learning more efficient.

The limitations of the textbooks, their static nature, the linear design principle, and limited size, and presentational rather than interactive style make them poor tools for acquisition of these native-like linguistic

and semantic expectations. According to Lieberman and "the biggest difference between the Web and the textbook is: the students can find pre-defined text only from the book, but from the Web, students can view the information that they are really interested in. For learners, teachers and researchers Web is a marvelous source where they can find wide variety information on every commonly studied discipline around the world. Also, students can use the Web as a source for delivering information as well [11]. "Writing for the Web allows the students to write for a specific audience, rather than merely for the teacher or the other students [12]. As we know, everybody has the need to communicate with the others. If the students find that they can communicate with the others on the Internet, this satisfaction and "actual need" will be a great motivation for them to learn how to use the Internet consciously, thus, the learning process will be very pleasant. A combination of classroom teaching and Web material will be an ideal combination for Interactive learning teaching and research.

If used effectively, Web is a tool that can enhance classroom teaching. But instructors should be certain what they will do with the Web before they incorporate the Web into their teaching. To learn from others is a very effective way. Instructors should contact the others who have already used Web in their teaching to gain experience. Meanwhile, instructors should consult technique experts to find out what technology support offered in their institute. The instructors should keep in mind "the instructor can't just drop technology into a class on short notice. It takes preparation and experience to be sure that technology enhances rather than interferes in the process of the course [13].

Although many instructors have already used Internet in the teaching, it is hard to get the quantitative analysis about the Internet's usability and effectiveness compared with the traditional teaching method from the researches have been done. Can Internet improve the learners' learning skills? After incorporating the technology into the teaching, what's the difference compared with the traditional classroom teaching? Whether the teaching result is the same as we expected? The answers for those questions are very important to refine the new methods of teaching. Sarah Horton, a language instructor who has tried Web in his teaching. He said: "It's a shame that, with all these changes in the way people teach, we are not doing a continuous assessment of student learning.[14] After the instructors have invested valuable time and energy in using Web, it's worth the effort to evaluate its effectiveness, thus help to make the best use of the medium.

### III. METHODOLOGY

The research was mainly survey in nature. It makes use of three (3) Universities in Northern Nigeria i.e. University of Maiduguri representing North East, Federal university of Minna representing North Central, and Ahmadu Bello University Zaria representing Northern west. Finally, 70 students and 30 academic staff each from three (3) Universities in northern sates of Nigeria with at least an undergraduate and post graduate degree took part in this study. They were all experienced computer and Internet users who had been using the Internet for at least 2 years and at least 4 times per week.

A total of one hundred questionnaires were purposely administered in each university to the respondents, making a total of 300 questionnaires. The category of respondents participated in this research were mainly academicians, and students. At the end of the survey a total of 210 questionnaires were returned, representing 70 percent response rates, these responses were then analysed satisfactorily and came out with the following results. The students and academic staff should fill in the questionnaire based on their own experiences. The main aim of the questionnaire was to find out how the students and academic staff used the Internet for Interactive teaching, learning and research. The questionnaire consisted of 16 questions in total and for most of the questions, the students were expected to choose one answer; for some questions, the students should give a brief explanation for their answers.

#### A. Results and Discussion

From the data collected, The findings of the study exhibits that although quite a number of teachers and students are aware of the immense benefit of the Internet as a tool for interactive learning, teaching and research; The study shows that the respondents lacked access in their schools and colleges. Those who had access used it essentially to search and retrieve information on entertainments, sports and news around the world. Only 40% of the respondents make use of the Internet for Interactive learning. In addition to this 50% of the teachers only use it for interactive research. None of the teachers indicate that they used the Internet for interactive teaching, however, they all agreed that it facilitate and boost their teaching capabilities the findings also shows that sixty (60%) percent of the respondents in northern Nigerian do not use the Internet and computers and the reason for non use is attributed to lack of knowledge to operate and non availability of facilities, while some respondents up to 40% respectively have no time to use the computer and the Internet. Similarly, a greater percentage up to 55% stated that the computers and the Internet services are too expensive for them to utilise. More so 45% of the respondents show that lack of awareness on the benefit of the Internet is their constraint. The research also find out that none of the teachers use the Internet for electronic interactive teaching, however, the respondents all agreed that the Internet has facilitate and boost their learning, teaching and research capabilities. Moreover, 80% of the respondents indicated that lack of available facilities and technical know how and show how has greatly compound the problem of the Internet use for Interactive learning, teaching and research in Nigerian higher institutions. Having access to the Internet from Nigerian higher institutions require proof of a healthy government support. More over, lack of knowledge on how to use the Internet facilities has also contributed to the underdevelopment of the Internet in Nigeria higher institutions.

However, the research findings also shows that there is an evident of frustration especially among individuals that have studied abroad (or usually travel aboard for conferences and seminars), in better endowed institutions and had a habit of interaction and accessing resources online but on their return to Nigeria they are unable to use these facilities. The research findings also revealed that the cost of Internet usage is borne by some-one, normally

the institution; it also shows that the Internet and e-mil use is increasing in the academic process but nearly not fast.

Finally, the result show that things have started to change, commercial vendors are becoming better equipped and have relatively easier access compared with findings of other researchers before. This is in line with the findings of Adeya and Oyelaran (2002) [15], [16], [17], Jagboro (2003) and Osunade (2003) that the use of the Internet and computers is coming up in Nigerian. This study shows that about 69% of their respondents do not use the Internet, giving reasons such as non-availability of access lack of knowledge and high cost of the Internet access.

#### IV. CONCLUSION

Internet as a tool for Interactive learning, teaching and research is a new phenomenon in education area. It appeared with the development of the Internet and the Website. The literature review supports the assertion that the Internet based Instruction is a growing trend. The study from Nigeria as an example reveals the strengths and weakness of the Internet as tool for Interactive learning, teaching and research in Africa.. The collected data provided a lot of useful information for us to evaluate the Internet's educational value in modern learning, teaching research: it is helpful to improve the communicative skills, especially the reading skill; it is an efficient supplement of the traditional classroom teaching; it makes the teaching more interesting, etc. On the other hand, this paper also revealed some questions: how to use the Internet to improve interactive, teaching and research? What is the best and effective way to combine the Internet with the classroom teaching? Only when we realize both the advantage and the disadvantage of the Internet, Web will become an effective supplement for classroom teaching and learning.

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