

# AN INVESTIGATION ON THE USAGE OF WEB 2.0 APPLICATIONS FOR EDUCATIONAL PURPOSES AMONG UNDERGRADUATE STUDENTS AT THE UNIVERSITY OF ZAMBIA

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## Abstract

*The utilization of social media now is becoming critical as it is a tool in education. In this regard, this study investigated the use of Web 2.0 applications for educational purposes among undergraduate students at the University of Zambia. A sample of 279 Library and Information Studies and Veterinary Medicine students at the University of Zambia was randomly selected. The data was collected via self administered questionnaires. The study showed that students appreciated the fact that Web 2.0 applications enhanced student-Lecturer interactions. It established that while Wikis were the most preferred for use in education among the students, the students were using Social Networking Sites (SNS) mainly for communicating with family and friends while video sites were largely used for recreational purposes. Furthermore, blogs were predominantly used as a tool for questions and answers on general knowledge. It was also established that the main factor influencing the adoption of Web 2.0 tools among students is recommendations from Lecturers and not at their own initiative. The findings further indicated that the major challenge students faced in the use of Web 2.0 applications was inadequate knowledge and skill. It was concluded that the educational use of these tools is still minimal as the students still lacked knowledge and skill in the educational use of such tools. It was thus recommended that Lecturers should provide their students with opportunities to exercise the use of Web 2.0 in their coursework.*

**Keywords:** Communication; Education; Research; Web 2.0 applications.

## 1. Introduction

The World Wide Web (WWW) has undergone a huge transformation from a resource for scientist to a worldwide source of information for billions of users. It has transitioned into a more social participatory stage called Web 2.0 under which an user of information becomes the provider of information by creating, organizing and sharing content (Anderson, 2007). Ware (2009) noted that there are several Web 2.0 tools, this study however, concentrated only on Social Networking Sites (SNS), Wikis, Web Logs (Blogs), and Video sharing sites. Firstly, Boyd and Ellison (2007) submits that SNS are web-based services which allow individuals to create a public profile within a bounded system, come up with a list of fellow users with whom they share a connection,

and view and survey their list of connections within the system. Secondly, Wiki, which means 'What I Know Is', is an open-access Web site allowing several users to contribute in the creation of content collaboratively (Venkat, 2011). The underlying concept of a wiki as stated by Sahele (2008:23) is the fact that *"it acts as a collaborative tool and hence facilitates more effectively the production of group work."*

Thirdly are Blogs of which Anderson (2007) highlights that they are an interactive media. The Blog author posts something and blog visitors comments thus allowing an exchange of opinions between the blog author and visitors. However, the comments made by the blog visitors are subjected for review and moderation by the author of the blog before they can be published. Doctorow (2002) in Salehe (2008: 26) submits that Blogs *"comes from the phrase 'web-log', which refers to a simple webpage containing paragraphs of opinion, information, personal diary entries, or links arranged in a chronological order with the most recent entry first in the style of an online journal."* Fourthly is video sharing sites tools that allow for the creation and sharing of videos. YouTube is a well-known implementation of video sites. Such sites have opened new opportunities for users to impart visual stories rather than textual ones (Venkat, 2011).

## **2. Web 2.0 applications and Education**

Web 2.0 applications have continuously raised the awareness of a number of researchers on the prospects of using these tools for educational purposes. It is in that regard that Bryant (2006) in McLoughlin and Lee (2007) explains that Web 2.0 tools have potential to handle the diverse needs of today's students, by providing them with opportunities to collaborate and network in an online environment. Safran, Helic and Gutl (2007), adds that Web 2.0 enables students to achieve their potential via improved access to information resources and experts which go beyond their school or country boundaries. This idea is shared with Klammaetal (2008) who suggest that Web 2.0 applications have astounding potential of linking learners in collaborative environments with decreases in bounders. This simply means that with the possibility to interact in a non-physical environment, learners are able to collaborate without having to worry about physical boundaries of time and space. In this vein, researchers such as Swain (2008) and Ullrich(2008) have shown that Web 2.0 has ground breaking opportunities for higher education as they offer significant advantages in learning. These studies show that Web 2.0 can indeed encourage students to actively participate in learning. Amongst the learning institutions in which there should be high usage of Web tools is the University of Zambia.

## **3. Problem statement**

Despite these purported benefits of Web 2.0 applications in the education circles, a review of literature found that efforts made in understanding the educational use of these tools at universities have mainly concentrated on developed countries especially Europe and North America. Little has been done in developing countries like Zambia. Due to this gap in knowledge, very little is known about the extent to which undergraduate students in Zambia are using or intend to use these resources for educational purposes and the challenges they face in the use of such tools. In addition, there is little understanding of the factors influencing the adoption of Web 2.0 tools among undergraduates. This research therefore sought to bridge the above knowledge gap.

#### **4. General objective**

The general objective of the study was to investigate the use of Web 2.0 tools for educational purposes among undergraduate students at the University of Zambia. The study had the following specific objectives;

- To establish which Web 2.0 tools are being used by undergraduate students and for what purposes.
- To explore undergraduates' perceptions on the use of Web 2.0 tools in learning.
- To investigate factors that influence undergraduate students to adopt the use of Web 2.0 tools for educational goals.
- To establish challenges undergraduates face in the use of Web 2.0 tools.

#### **5. Research Methodology**

This study combined quantitative and qualitative approaches to research. Bryman (2004) suggest that using both allows for the advantages of both approaches while countering weaknesses inherent in each approach if used without the other. The study was conducted at the University of Zambia in two selected programs, namely; Library and Information Studies (BALIS) and Veterinary Medicine (Vet.Med) which allowed the gaining of insights from science and non-science based students in the use of Web 2.0 applications. The total population was four hundred and twenty-seven (427) for LIS; and one hundred and twenty-five (125) for Vet.Med. Using the Stratified random sampling procedure, 175 LIS and 104 Vet.Med students were picked making a sample size of 279 students. Primary data was collected by the use of self-administered questionnaire which had both closed and open ended questions. In terms of data analysis, the Statistical Package for Social Scientists (SPSS) was used to analyze quantitative data while qualitative data was done by sorting the said data into categories of responses, generated themes, made interpretations and drawing conclusions.

#### **6 Findings and Discussion**

##### **6.1 Overview**

A total of 279 questionnaires were distributed among LIS and Vet.Med students. Out of the total number, 269 responded, that is, 96.41 percent response rate.

##### **6.2. Web 2.0 tools used by undergraduate students**

When asked about the use of web 2.0 applications, it was discovered that 267 (99.3%) respondents were using at least one of the web 2.0 applications. Those who indicated that they were using the web 2.0 tools were further asked to indicate the specific applications they were using. Results showed that 260 (97.4%) of the respondents stated that they were using social networking sites, 236 (88.4%) were using wikis, 179 (64.4 %) were using video sharing sites while 80 (30.0%) were using blogs.

### **6.3 Use of Social Networking sites (SNS)**

It is noted that the most used web 2.0 application among undergraduates was the social networking sites (SNS) with 97.4%. The high use of SNS could be because it is the most popular and most heavily used social media worldwide (Elgort et al 2008). Further analysis of what purpose SNS were used for, showed that 93 (57.1%) BALIS students were using the application to communicate with family and friends as compared with 58 (58.1%) of Vet.Med students. These findings are in line with the findings by Lampe et al., (2008) who reported that the main reason why students use SNS is to communicate with their families and friends. Unlike a study by Armstrong and Franklin (2008), at Michigan State University who established high educational use of SNS in supporting learning.

### **6.4 Use of Wikis**

The second most used Web 2.0 application were wikis with 88.4 %. These findings are similar to Majhi and Maharana(2011) who reported that Wikis and social networking sites were the most commonly used Web 2.0 applications by the academic community in India.

In order to compare the use of wikis between programmes of study, it was revealed both students used wikis for educational purposes.

### **6.5 Use of Video Sharing sites**

Video sharing sites were third on the rank regarding the Web 2.0 applications used by the undergraduates. A number of scholars like Venkat (2011), report that video sharing sites can be used for academic purposes such as getting how to information and finding videos on various academic related issues. However, it was established that the main purpose the majority of undergraduates (86.2%) used these sites was to entertain themselves. Very little educational related use was indicated as less than 20 % were using the application to find videos on academic related issues.

### **6.6 Use of Blogs**

Of those who were using blogs, the majority (81.5 %) were using them to get information on general knowledge. Some specific educational uses of blogs were noticed where 10.0% were using the application for updating academic knowledge 7.5% to follow academic discussions. These findings are contrary to Ellison and Wu (2008), Hall and Davison (2007) who reported that students mainly use blogs to improve higher-order learning skills by following discussions on specific educational discussions. The difference could be because of the students' low levels of awareness of the existence and nature of blogs.

### **6.7 Undergraduates' perception on the use of Web 2.0 tools in learning**

In order to investigate the perception of students' use of Web 2.0 tools in education, of the 267 respondents that were using at least one form of Web 2.0 applications, it was discovered as indicated in figure 1 that 112 (41.9%) would support the use of Web 2.0 applications in education as it would increase student-lecturer interaction; this was followed by 75 (28.1%) who indicated that these tools could help improve learning, knowledge sharing and collaboration, 52 (19.5%) considered Web 2.0 applications as flexible and easy to use; those who felt that the use of Web

2.0 tools in education would help integrate generated knowledge into critical thinking skills and problem solving amounted to 10 (3.7%); while 12 (4.5%) stated that such tools would facilitate international academic interaction; and six (2.2%) were missing values . It was noted that there were no significant differences between programme of study and students' attitudes towards the use of Web 2.0 in education.

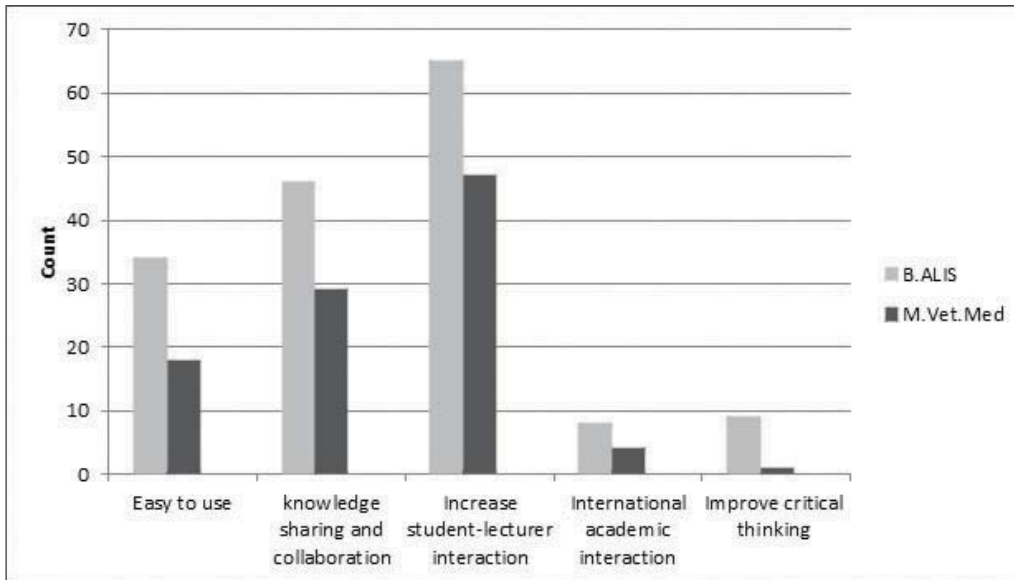


Figure.1: Reasons for use web 2.0 in education

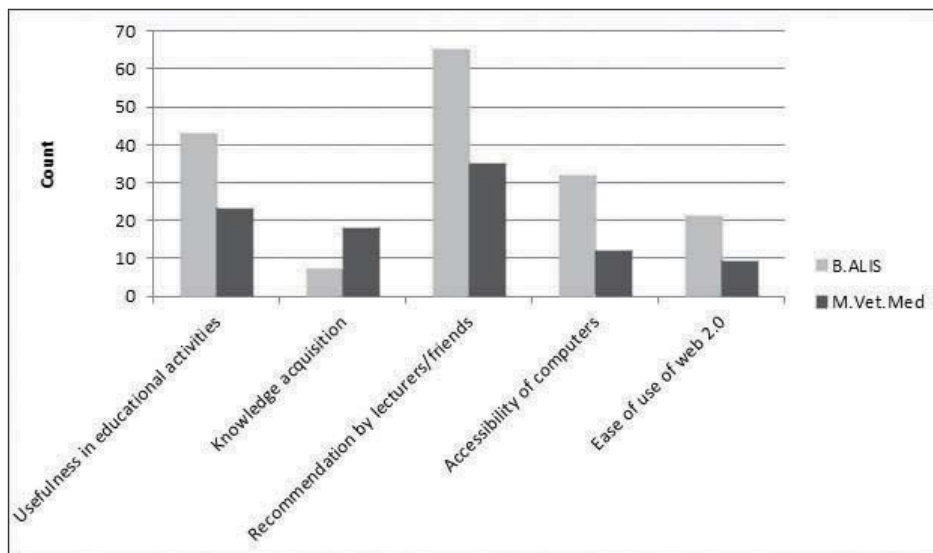


Figure.2: Factors influencing of web 2.0 tools

### 6.8 Factors that influence undergraduates to adopt the use of Web 2.0 tools

In assessing the factors that influenced students to use Web 2.0 applications. It was revealed as noted in figure 2 that 100 (37.5%) comprised those who felt that recommendation from Lecturers would influence adoption, 66 (24.7%) considered usefulness in educational activities as one of the factors determining adoption, 44 (16.5%) pointed to having access to computers and Internet, 30 (11.2 %) pointed to the ease of use of Web 2.0 tools as a factor influencing adoption; while 25 (9.4%) indicated increased chances of knowledge acquisition. In addition, two (0.7%) comprised of the missing values. These findings similar with Collins and Hide (2010); stated that social influence from important others affect the adoption and use of new technology. The study established that there were no significant differences in the factors affecting the use of Web 2.0 applications with respect to programme of study. The findings showed that students would be encouraged to adopt the use of Web 2.0 applications if their lecturers recommended so.

### 6.9 Challenges undergraduates face in the use of Web 2.0 tools for educational purposes

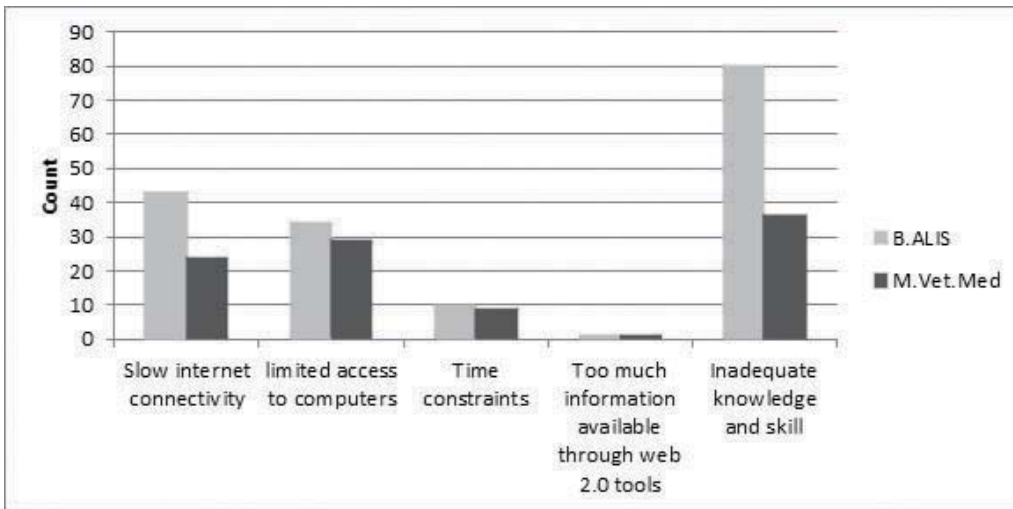


Figure.3: Problems encountered when using web 2.0

In order to investigate the challenges students face when using Web 2.0 for educational purposes, they were asked to indicate the problems they faced when using such applications. It was discovered as presented in figure 3 that the majority thought that inadequate knowledge and skill to use such tools for educational purposes was the major problem as they constituted 116 (43.4%); 67 (25.1%) noted that slow internet connectivity was a problem while 63 (23.6%) pointed out to limited access to computers. These results are in line with Vassiliki and Garoufallou(2011) who also found that lack of knowledge and skill in the use of social media for education purposes was the main challenge faced by students by Greek students. However, these results are different from Redecker, Mutka and Punie (2010) who established that university students faced problems such as electricity failure, low internet bandwidth, insufficient infrastructure such as computers, and managing time for using Web 2.0 during the semester.

## 7 Conclusion

The Web 2.0 applications are becoming potential tools for educational use among students in institutions of higher learning. BALIS and Vet.Med students utilize all the four Web 2.0 applications under study; SNS being the most used, followed by wikis, videos and lastly blogs. SNS were mainly used for communicating with family and friends, wikis for research to meet coursework demands, video sites for entertainment and blogs for exchanging questions and answers on general knowledge. Their perception of Web 2.0 in learning was positive as it enhanced student-lecturer interaction. However, it was noted that their Lecturers had not incorporated such tools in teaching as such tools were not being recommended by their Lecturers. It was also revealed that students were not using web 2 tools because of the lack of knowledge and skill in the use of Web 2.0 applications for educational purposes. Students therefore lack guided experience regards the use of these tools in a classroom environment and/ in their course work. It is thus recommended that Lecturers must play a role in determining which Web 2.0 tools their students should adopt for educational purposes and Students need to be educated on the internet use as well as the necessary hardware and software to enhance the use of Web 2.0 applications.

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