The Integration of Web 2.0 in Teaching-Learning in Tanzania Higher Learning Institutions: The Case of the State University of Zanzibar (SUZA)

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Abstract. The emergence of new technologies has brought significant changes in teaching and learning environment in higher education institutions. One among the technologies that is being integrated in teaching and learning in higher learning institutions is Web 2.0. Web 2.0 is defined as "an increased emphasis on user generated content, data and content sharing and collaborative effort, together with the use of various kinds of social software, new ways of interacting with web-based applications, and the use of the web as a platform for generating, re-purposing and consuming content" [1]. This paper highlights how Web 2.0 such as Learning Management System (LMS), Google drive, social media that have been integrated in the teaching-learning in the State University of Zanzibar (SUZA). It also explores some findings from students based on their perception of Web 2.0 integration. Finally, it pinpoints challenges encountered during the integration and what should be done to ensure the full integration of web 2.0 at SUZA.

Keywords: Web 2.0 · Learning Management System (LMS) · Social media · Teaching-learning · Higher learning institutions

1 Introduction

Technology integration is very important in the teaching-learning process. The use of technology has changed our way of teaching as well as learning. In this digital era, technologies have a great impact not only for learners but also for teachers. This great impact can be observed from lower level to the higher learning institutions.

Web 2.0 such as social media, collaborative tools, wikis and video websites are among the emerging technologies that are used in higher learning institutions in developed and developing countries. [2–4] stipulate that tools such as blogs, Google docs, Google groups, Podcasting, RSS, Wikis, and YouTube are more well liked in teaching and learning. In Tanzania, the use of web 2.0 for teaching-learning purpose has been practiced by some of the higher learning institutions.

2   Objectives

This paper highlights how Web 2.0 that have been integrated in the teaching-learning in the State University of Zanzibar (SUZA). It then explore some findings from students based on their perception of Web 2.0 integration. Finally, the paper pinpoints the challenges encountered during the integration and what should be done to ensure the full integration of web 2.0 in the State University of Zanzibar.

3   Methodology

The method used to collect data was qualitative in nature and the data was collected from course evaluation form. Normally, at the end of semester the instructor gives an evaluation form to the students. In that form students had to evaluate the entire course on how their expectations have been met, what new things that they have learned and what challenges they have encountered during the course. The form consists of two parts: The first part asked about students' information such as programme, campus, gender and age. The second part comprises three questions; the first question is about good things found during the course, the second course is about the bad things found in the course and the last question is about things that need to be improved.

The evaluation form is created in Google form and put on LMS platform as well as Facebook course group and students are encouraged to fill the form. This paper reveals some evidence from two courses namely Educational Resources, Media and Technology (I) and Educational Resources, Media and Technology (II) which is offered in semester one and two respectively.

This evaluation was done in the academic year 2015/2016, where 256 students responded in the course of Educational Resources, Media and Technology (I) which is a compulsory course to all students majoring in Education in the first semester. Similarly, 108 students responded in Educational Resources, Media and Technology II which is elective to education students. This course is normally offered in the second semester. Data collected were analyzed from the Google form and the results are reported herein.

4   Integration of Web 2.0 in the State University of Zanzibar

There are various web 2.0 technologies that are integrated in teaching and learning at the State University of Zanzibar. For this study, the web 2.0 technologies that were used are LMS, Facebook, Google drive and YouTube. The technologies have been written in terms of students' preference. The students identified that the LMS integration plays a big role in helping them achieving their learning objectives. They also mentioned that Facebook is also crucial in their learning process as it facilitates their collaboration and communication. They also supported the integration of Google drive for easy sharing of materials and easy notification as well as YouTube for its streaming capabilities as well as saving the recorded video materials for later use and replaying capabilities. The web 2.0 integrated are discussed below:

4.1 Learning Management System (LMS)

Currently, the number of universities adopting LMS in higher education in sub-Saharan Africa has increased. Various researches have been conducted within the sub-Saharan Africa such as [5–7] showing the adoption of LMS in higher learning.

The State University of Zanzibar has its own LMS. This LMS was developed from MOODLE which is an Open source. More than 30 courses have been piloted among which are the course of Educational Resources, Media and Technology I & II. In these two courses, it is mandatory for students to register and follow the course through LMS.

In this LMS, students have opportunity to get lecture notes through presentation software such as MS power point, Google slides and Prezi. Similarly, some videos from YouTube and those created by instructor related to the topics are posted in the LMS. Apart from that, students have opportunity to interact with the instructor and their fellow students through forums which are created by instructor in the LMS. In order to assess the student's performance, students are given quizzes at the end of each topic so as to check their understanding in that topic.

Students identified the integration of LMS in their learning process as good tool since it gives them opportunity to follow the instruction effectively due to its availability in 24 h. Even when they miss the class, they have opportunity to learn the same missed lesson by login to the LMS platform even through their smartphones and tablets at any time. [8] emphasizes the point that most African universities have established e-learning management systems in their institutions. This study is supported with [9] where 44.4% of students prefer LMS as tool to be used for teaching and learning (Fig. 1).
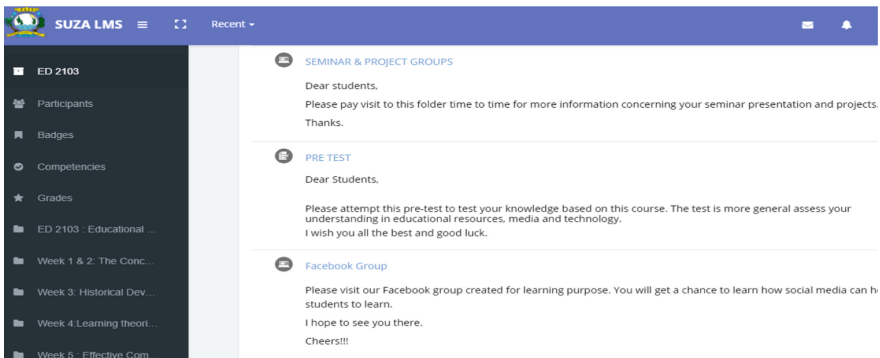

Fig. 1. Example of Learning Management System used in SUZA

4.2 Facebook

The use of social media in the higher learning institutions in Tanzania is becoming popular. [10] recommended that higher learning Institutions should promote the usage of Facebook and other tools since some of them have suitable applications for academic purposes. For this reason, in both two courses, the instructor created Facebook group for

each course where only students taking the course were accepted to be the members of that group. Unlike LMS, joining the group is not compulsory but is highly encouraged.

The main use of Facebook is to notify students what is going on in the LMS. The instructor normally uses it for announcement concerning the course and things which are related to the course. Also, lecture notes are put on the wall for easy access of learning materials. Apart from that, students have great opportunity to interact with the instructor via Facebook rather than in LMS. This is because most of the time students spend their time in social media than in LMS.

The use of Facebook in teaching-learning process has been appreciated by students since it gives them the opportunity to follow the instruction anytime. They also consider it as positive way of using social media. They have added that Facebook also enhances communication and collaboration between them and the instructor as well as among themselves. This is reinforced by the study of [11] which shows the immense potential of Social media in teaching and learning at SUZA (Fig. 2).


Fig. 2. Example of Facebook page used for teaching-learning

4.3   Google Drive

In both courses the instructor created course folder in Google drive. The aim of creating these folders is to share with students. The folders are posted in both platforms, LMS and Facebook for easy access. In the course folder, there are subfolders on different headings such lectures, assignments, coursework, evaluation and so on. The popular tools used in this Google drive are Google docs, Google sheet, Google slides as well as Google form. In most cases, the use of Google form is more than other tools since it used frequently for evaluation and assessment.

Majority of students are interested in using Google drive since it helps them in collaborating not only with their fellows but also with instructor. It also helps them to submit their assignments easily and timely. As most of the student's own smartphones, it was so easy for them to access the materials and course notification timely (Fig. 3).
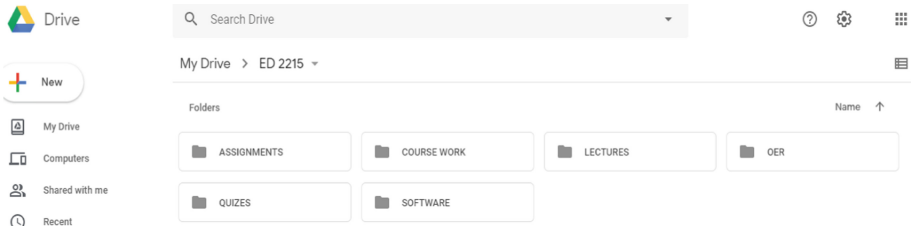
Fig. 3. Example of Google Drive used for teaching-learning

4.4   YouTube

The use of video is highly encouraged in both courses so as to facilitate learning and teaching process. The instructor normally uses video from YouTube in the classroom as well as posting in both platforms LMS and Facebook. Students are also motivated to use videos during the seminar presentation. Similarly, the instructor created some videos concerning the course and uploads it on the YouTube.

Students value the use of YouTube in learning and teaching process since it gives them wider understanding of topic. They also have opportunity to replay more and more until they grasp the concept. They have added that with the available new features, the students are able to download the video materials and view them offline at their own time and pace. According to [12] the use of YouTube in the teaching and learning process improves instruction with students most likely to visit video sharing services from their mobile devices (Fig. 4).

Fig. 4. Example of YouTube video used for teaching-learning

5   Challenges Facing the Integration of Web 2.0 in the State University of Zanzibar

In the evaluation forms, the students were asked to identify the challenges they face in the integration of the mentioned Web 2.0 technology in teaching and learning. Their responses are documented thematically as shown:

5.1   Network Problem

Connectivity was a major challenge identified by all students in both evaluations. Network problem is facing many higher learning institutions in Tanzania. Students explained that they fail to integrate web 2.0 in their learning process due to poor network within campus and the high associated cost of the Internet access in the area. This challenge has also been identified by [13]. In addition to this, [8] argued that low Internet bandwidth is one of the limiting factors for most African Universities to use e-learning systems at high rates. For example, student A1 explained "*Sometimes there is network problems in the library when I normally search learning materials. Also, sometimes when I need to search materials through my smart phone the university WI-FI is low or not available.*"

5.2   Inadequacy of Devices

Majority of students reported that they do not own their own gadget like computers, ipad, tablets and smartphones. They normally rely on university resources for learning process. They argue that unavailability of resources or devices give them hard time to utilize and integrate technologies effectively in their learning activities. This is emphasized by student A2 "*On the side of library, the main problem is on the number of computers being available, the number of computers in E-Library room is only 24 while the number of students is beyond 1500, Furthermore, the number of sockets in library is inadequate for those students who have their own computers.*"

5.3   Limited Skills in Using IT for Learning

Nearly half of respondents claimed that they are not skilled enough to go through those web 2.0 integrated into their course. They reported that this was a critical issue since it impeded to utilize those technologies effectively. For instance, student A3 said "*it was difficult to download some of the notes and I have low knowledge to follow the link and accessing materials.*"

5.4   Spam, Immoral Pictures and Video from Social Media

Apart from the above challenges, some respondents state that sometimes they receive spam, immoral pictures and video from social media. This challenge was reported mainly for those who are using Facebook. This was clarified by student A4 "*on social media many destructions can appear like friends send messages not related to the lesson, you can also receive immoral pictures.*"

6   Conclusion and Recommendations

As we have seen above, Web 2.0 is being practiced for teaching-learning process. In order to ensure full integration of utilizing Web 2.0 in teaching-learning in higher learning institutions in Zanzibar and Tanzania in general, higher learning institutions must improve connectivity for both lecturers and students. Furthermore, higher learning institutions should adopt the use of Web 2.0 to all programme. Moreover, teaching-learning environment should be well equipped to influence the integration of technologies in higher learning institutions. Similarly, government should put a great support to improve the infrastructure to facilitate the use of technologies in higher learning institutions. Last but not the least, training should be provided to both lecturers and students for better integration of Web 2.0 in teaching and learning environment.

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