

The Relationship between Web 2.0 Technologies and Students Achievement in Virtual University

Abbas Abdoli-Sejzi¹, Baharuddin Aris¹, Maizah Hura Ahmad² & Mohd Shafie Rosli¹

¹ Department of Educational Sciences, Mathematic and Creative Multimedia, Universiti Teknologi Malaysia, Johor Bahru, Malaysia

² Department of Mathematical Sciences, Universiti Teknologi Malaysia, Johor Bahru, Malaysia

Correspondence: Baharuddin Aris, Department of Educational Sciences, Mathematic and Creative Multimedia, Universiti Teknologi Malaysia, Johor Bahru, Malaysia. Tel: 60-19-700-0712. E-mail: bba@utm.my

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Abstract

This paper has been investigated the effectiveness of Web 2.0 technology in virtual universities. Web 2.0 tools refer to the Web-based applications that allow virtual students to collaborate, communicate, and share information in a virtual or online learning environment. The population has been virtual students in developed and developing countries that based on Krejcie and Morgans' table, 384 students have been selected as sample. The results show that there is relationship between the use of Wikis, Podcasts, Blogs, and Web 2.0 technologies and students achievement in virtual university. Also using the Web 2.0 technology creates changes in communication, learning strategy, teaching methods, and interaction between learners and instructors. In virtual university many Web 2.0 tools contain characteristics of social software that maintain the ability to connect users and allow users to create Web content through collaborative efforts. Wikis, podcasts, and blogs represent social software that allows learner to collaborate by exchanging information through the Internet. Interaction and collaboration encourage learners to construct their knowledge, which remains characteristic of a constructivist approach to learning.

Keywords: students achievement, Web 2.0 technology, virtual university

1. Introduction

The presence of new technology like web 2.0 application has dramatically changed the instructional landscape in education (Brewer & Milam, 2006; Ellison & Wu, 2008; Glass & Spiegelman, 2007). Many universities are already exploring the instructional use of Web 2.0 technologies such as wikis, blogs, iPods, podcast-ing, text messaging, and other social software like distributed classification systems (Abdoli-Sejzi, 2014; Ferris & Wilder, 2006).

To improve online learning programs, the university should better understand the effect innovative and diverse technologies such as podcasts, blogs, wikis, and Web 2.0 will have on its faculty and students. In a study about web 2.0, Gibbs (1999) reported that better teaching and better learning were the greatest benefits of use web 2.0 technologies. Web 2.0 tools change the ways users collect and handle data and information, and these tools also allow users to create their own content. Web 2.0 tools offer learners a self-regulated mode of learning that no longer depends on formal settings, such as a classroom with a teacher lecturing. By collaborating and interacting with others through Web 2.0 tools, students form a community of learners with common goals. Effective Web 2.0 tools connect with constructivist ideals allowing learners control over learning experiences and construction of their own knowledge (Parker & Chao, 2007).

With existing and emerging Web 2.0 tools, educators empower their teaching skills with tools such as wikis, podcasts, and blogs to provide active, provocative communication and collaboration with their students and among their students and course content (Parker & Chao, 2007). Social networking, with Web 2.0 technologies such as Facebook, YouTube and Flickr, offers tutors and students huge opportunities to reach and learn from each other. That is, Web 2.0 technologies' emphasis on social communication fits well with the constructivist approach to teaching and learning. Web 2.0 applications are going to play an important role in virtual universities in the forthcoming convergence in developed and developing countries. Web 2.0 technology is important in

virtual university because of three factors: a) the internalization of higher education b) the demands of the new teaching-learning processes and c) the need for the universities to innovate and incorporate new technologies.

2. Virtual University and Web 2.0 Tools

Virtual university is an emerging concept that uses information and communication technologies for its delivery. It is flexible and convenient to the learners providing them exposure with emerging technologies. In virtual university many Web 2.0 tools contain characteristics of social software that maintain the ability to connect users and allow users to create Web content through collaborative efforts. Wikis, podcasts, and blogs represent social software that allows learner to collaborate by exchanging information through the Internet. Interaction and collaboration encourage learners to construct their knowledge, which remains characteristic of a constructivist approach to learning (Abdoli-Sejzi, Aris, & Yahya, 2012; Gibbs, 1999).

3. Web 2.0 Technology

Virtual education has made major gains and is rapidly becoming mainstream opportunities for not only the University, but also for higher education institutions world-wide. To improve virtual education programs, the University should better understand the effect innovative and diverse technologies such as podcasts, blogs, wikis, and Web 2.0 will have on its faculty and students. In a study involving 50 faculty members, has been reported that better teaching and better learning were the greatest benefits of instructional technologies (Gibbs, 1999).

More than several hundreds of Web 2.0 tools available on the net include podcasts (iTunes), weblogs (Blogger), wikis (PBWiki), social bookmarking tools (del.icio.us), social networking tools (Facebook, Myspace), social media sharing tools (YouTube, Flickr), virtual 3D communities (Second Life, Sanalika), social library tools (Library Thing), customized sites (Googlepages), and collaborative writing tools (Zoho). The use of these Web 2.0 technologies is obviously altering the way people live, communicate, more specifically learn and teach in a variety of ways (Balcikanli, 2012). Web 2.0 tools refer to the Web-based applications that allow students to collaborate, communicate, and share information in a virtual or online learning environment. Many Web 2.0 tools contain characteristics of social software that maintain the ability to connect users and allow users to create Web content through collaborative efforts. Wikis, podcasts, and blogs represent social software that allows users to collaborate by exchanging information through the Internet. Interaction and collaboration encourage learners to construct their knowledge, which remains characteristic of a constructivist approach to learning. The Web resembles an enormous place where anyone participates and interacts with others using Web 2.0 tools (Parker & Chao, 2007).

Web 2.0 tools in virtual university change the ways learners collect and handle data and information, and these tools also allow learners to create their own content. Web 2.0 tools offer learners a self-regulated mode of learning that no longer depends on formal settings, such as a classroom with a teacher lecturing. By collaborating and interacting with others through Web 2.0 tools, students form a community of learners with common goals. Effective Web 2.0 tools connect with constructivist ideals allowing learners control over learning experiences and construction of their own knowledge. However, efforts in utilizing Web 2.0 tools head toward failure if instructors resist changes in their instructional strategies (Parker & Chao, 2007).

Traditionally, student assessment displays a competitive nature where students compete for the highest grades. Collaborative Web 2.0 tools offer a deeper learning style by fostering a more collaborative, cooperative, and reflective learning environment where learners no longer compete for grades. Through the use of such tools, learners compare and contrast their work in order to create a sharable form of knowledge in their learning community. Educators must vacate the traditional assessment methods of individual student performance and concentrate on new assessment methods that fairly assess learning outcomes of learning communities. One of the challenges in this relatively new venue of education creates a contextual framework that includes meaningful criteria to measure learning outcomes in this new non competitive learning environment (Ruth & Houghton, 2009).

The application of Web 2.0 technologies to education has radically changed especially over the last five years, along with myriad new developments and tools emerging one after the other. These technologies challenge the assumptions in the existing educational curricula proposing active learning methodologies. In lieu of teaching/learning modes in which information is transmitted from teachers to students, Web 2.0 tools are based on a social constructivist framework which provides opportunities for student-centred styles of learning. Web 2.0 technologies offer educators unique opportunities for creating an effective and engaging learning environment where their students seem to learn in a more constructive way (Abdoli-Sejzi & Aris, 2012; Dudeney & Hockly, 2007). That is, Web 2.0 technologies' emphasis on social communication fits well with the constructivist approach to teaching and learning. Generally, Social networking, with Web 2.0 technologies offers tutors and

students huge opportunities to reach and learn from each other (Hawkrigde & Wheeler, 2009).

Web 2.0 applications are going to play an important role in virtual universities in the forthcoming convergence in developed and developing countries. Web 2.0 technology is important in virtual university because of three factors: a) the internalization of higher education b) the demands of the new teaching-learning processes and c) the need for the universities to innovate and incorporate new technologies. Web 2.0 technologies offer an opportunity to connect with other students from all over the world who have similar interests in solving a problem or investigating an idea through collaboration and engaging each other in the learning process.

3.1 Wikis

The word wiki stands for the Hawaiian phrase wiki-wiki which means quick (Parker & Chao, 2007). The wiki encourage collaboration of users or learners regarding course content. Users easily edit or revise content in wikis. Wikis emerged from the Web 2.0 explosion with the capability of complementing and enhancing learning experiences by adding a collaborative component for teachers and students (Parker & Chao, 2007). Wikis allow instructors to develop learning opportunities that enhance learning processes and outcomes through assessable interactions (Ruth & Houghton, 2009). If instructors attempt to incorporate wikis into their curricula and demand control of the learning process, the wiki reduces to a mere course management system, which takes away any benefits and usefulness of the wiki. Instructors guide and facilitate the use of wikis by establishing topics and initiating interaction that motivate learner participation.

3.2 Blogs

In the educational area, blogs exist as Web pages that simulate journals where authors or students reflect on activities or assignments. Visitors to blogs post comments creating interaction with the author and other visitors. Blogs also allow students to post podcasts, movies, pictures, and other forms of media. This enhanced feature allows students to archive and display their class projects in one area transforming the blog into a digital portfolio known as a blogfolio. Blogfolios allow students to witness their growth over time and reflect on their learning experiences. Blogs and blogfolios offer students a venue where they display creativity and use critical thinking skills (Moore & Kearsley, 1996; Ruth & Houghton, 2009). They further state regarding students interacting with blogs, in doing so, the students acquire creative, critical, communicative skills that may be useful to them in both scholarly and professional contexts. With existing and emerging Web 2.0 tools, educators empower their teaching skills with tools such as wikis, podcasts, and blogs to provide active, provocative communication and collaboration with their students and among their students and course content (Moore & Kearsley, 1996). Instructors and instructional designers assume the responsibility of connecting appropriate tools to learning interactions and activities because not all tools demonstrate appropriateness for every situation (Beldarrain, 2006).

3.3 Podcasts

Podcasting involves placing recorded material on a website from which it can be downloaded and listened to at a later time. Although originally developed as a way of providing access to recorded music by downloading, at a cost, from the Internet, podcasting is now used extensively by radio and television stations to make interviews or other interesting materials available to listeners (Bull, 2005). The cost of downloading from Internet sources has fallen, and most students have access to a computer and the Internet. Podcasts can be downloaded onto portable MP3 devices, for example, Apple iPods and replayed either through earphones or speakers (Leiserson, 2000).

4. Method

Regarding the topic, research method is survey. According to Wiersma (1991), survey research encompasses a wide variety of research studies. He further emphasized that survey can be used to measure attitudes, opinions or achievements with any number of variable in the natural setting.

4.1 Population and Sampling Procedure

The population has been composed of students of the virtual universities based on UNESCO's Report about virtual universities over the world, some of whom have been selected through sampling methods. The sample surveyed in this study, selected from population. In this study has used simple random sampling. To indicate the sample size have used of table that Krejcie and Morgan (1970) determine in their article. When researchers consider the Confidence Level = 95%, Margin of Error = 5%, the value in the next column is the sample size that is required to generate a Margin of Error of 5% for any population proportion. At this level and when population is higher than 250,000 the sample size will be 384 people.

5. Results

In this study CGPA has considered as students Achievement. And research question are as below:

Research Question 1: Is there correlation between Web 2.0 Technologies and CGPA in virtual university?

Research Question 2: Is there correlation between Wikis and CGPA in virtual university?

Research Question 3: Is there correlation between Blogs and CGPA in virtual university?

Research Question 4: Is there correlation between Podcasts and CGPA in virtual university?

Table 1. The correlation between Web 2.0 Technology and students achievement

Variable	Frequency	Pearson correlation coefficient	Significant level
Students' CGPA = Students Achievement			
WEB 2.0 Technologies	384	r=0/88	P<0/05
Wikis	384	r=0/81	P<0/05
Blogs	384	r=0/79	P<0/05
Podcasts	384	r=0/71	P<0/05

Based on Table1, the current study displays a high association ($r = 0.88, p < 0/05$) between participants' beliefs about Web 2.0 Technologies and their CGPA. Among these significant correlations, the Web 2.0 Technologies in general, had the strongest relationship with CGPA (student's achievement). The Wikis, had the high correlation with CGPA ($r = .81, p < 0/05$), the Blogs had the most notable correlation with CGPA ($r = 0.79, p < 0/05$), and also Podcasts had the high correlation with CGPA ($r = .71, p < 0/05$). In summary, based on the result of Pearson correlation, the present study found that there was a high relationship between Web 2.0 Technologies in virtual university and CGPA. The present study found significant relationship between Web 2.0 Technologies in virtual universities and CGPA (students' achievement). Administrators, lecturers and instructors should try to use Web 2.0 Technologies to help students develop their skills in their course in virtual universities.

6. Conclusion and Interpretation

Identifying the impact of Web 2.0 technologies on CGPA (Students achievement) in virtual university aligns with the literature, as a number of models and theorists and previous research have identified Web 2.0 technologies (Parker & Chao, 2007; Balcikanli, 2012; Hawkrigde & Wheeler, 2009; Gibbs, 1992; Dudeney & Hockly, 2007; Kramer, 2000; Barry & Abt, 20077). Web 2.0 tools refer to the Web-based applications that allow virtual students to collaborate, communicate, and share information in a virtual or online learning environment. The use of Web 2.0 technologies in virtual university creates changes in communication, learning strategy, teaching methods, and interaction between learners and instructors. The results show that students value the flexibility offered by Wikis, Blogs, and podcasts in terms of the ability to study when and where students want. The results show that Web 2.0 tools in virtual university change the ways learners collect and handle data and information, and these tools also allow learners to create their own content. Web 2.0 tools offer learners a self-regulated mode of learning that no longer depends on formal settings, such as a classroom with a teacher lecturing. Effective Web 2.0 tools connect with constructivist ideals allowing learners control over learning experiences and construction of their own knowledge. However, efforts in utilizing Web 2.0 tools head toward failure if instructors resist changes in their instructional strategies.

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