A Study of Web 2.0 Technologies in Teaching-Learning Process

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Abstract:

The present study explored the awareness and usage of Web 2.0 Technologies in the teaching learning process of students enrolled in the B.Ed. Course. Web 2.0 Technologies are a revolution in education; the network of these technologies involves sharing and contribution of content, collaboration, and creativity. These technologies have facilitated the shift from instructor-based teaching to student-centered learning. The sample (N= 150) of the study comprised B.Ed. Trainees of Aligarh Muslim University. The tool used to collect data was a self-constructed questionnaire by the researcher. Descriptive statistics were used to analysis the data. The researcher studied the awareness of B.Ed. Trainees about Web 2.0 Technologies and found that the students were highly aware of various Web 2.0 tools available for them on the internet. It was also found that the students used Web 2. Technologies in their teaching learning process quite frequently, which includedpreparing a presentation, lesson plans, teaching aids, and gaining knowledge about a particular knowledge. The findings of the research study concluded that Web 2.0 has great potential to be used in teaching andlearning. It was also suggested that with proper guidance and facilitation by teachers, the students will be able to effectively utilize Web 2.0 technologies in their course of study.

Keywords: *Web 2.0 Technologies, Teaching, Learning, B.Ed. Trainees.*

I. INTRODUCTION

The term Web 2.0 has been referred to the appearing trend in the Internet changing theworld in various articles and publications since 1999. It was John Robb, who initially described Web 2.0 as it is a system that replaces the old model of centralized Web sites and enriches the power of the Web/Internet. Officially Tom O'Reilly, 2005 mentioned Web 2.0 for the first timein a broad article entitled, “What Is Web 2.0? Design Patterns and Business Models for the Next Generation of Software”, where he discussed the idea of “Web as a platform” and made the contrast between Web 1.0 and Web 2.0.In simple term, we can say that Web 2.0 is the second generation of Web-based services that involvescreating, sharing and online collaboration. These are called Web applications that encourage an intuitive data sharing, User-focused plans, and coordinated effort on the Internet. It includes Instant messaging, Wikis, Document sharing, Presentationsharing, Photo sharing Blogs,Blogs, Microblogs, Mashups, Vodcasts, RSS feeds, Social networking, Socialbookmarking, etc.As far as thedefinition of Web 2.0 is concerned, O’Reilly defined the term of Web 2.0 as "compactdefinition" (Tom O'Reilly, 2005).

Web 2.0 can also bedefined as the read/write Web, where users can add to thecontent besides accessing it. It’s concerned with many different things at the same time: ideas, technologies, behavioural patterns, ideas, goals(Anderson, 2007). It gives adynamic online platform on which people not only can create and share information but also collaborate and interact with information services through the Internet. Web 2.0technologies allow user participation by supporting anonymity, better collection ofinformation, freedom of expressing ideas, quick and easy communication, and enables thestudy to take place anywhere and at any time. There is a need for a shift frominstructor-delivered teaching to student-facilitated learning. (Hazari & Moreland, 2009). With Web 2.0 Technologies, teachers become facilitators and encourage students to think and to create things more creatively and critically as it challenges intellectual aspects of the individuals which lead them to aninnovator in teaching-learning process on the part of teachers as well as active and creative participants on the part of students. By using Web 2.0 tools, they can support innovative teaching methods and learning process because it is quite associated with the conceptslike communities of practice, syndicated content, learning as a creative activity, peer-to-peerlearning, creation of personal learning environments, and non-formal education. Ultimately Web 2.0 tools can be used to develop and enhance student’s motivation, improve participation, facilitate learning and social skills, stimulate higher ordercognitive skills, and increase self-directed learning. In order to make such kind of advance and forward-looking learning environment, many universities around the world and including Aligarh Muslim University are adopting these technologies intheir education sector to encourage students to learn with Web Technologies.

Looking at the Web 2.0 technologies in the relation to awareness and its usagein teaching-learning process among undergraduate and postgraduate students in Indian Universities, there isa need to assess familiarity with Web 2.0 technologies and its Frequency of Usage to determine their perception towards these technologies.There is a comprehensive list of Web 2.0 technologies which include a number of core technologies and services that moststudents,

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teaching staff, and librarians are familiar with or at least aware. Following some those Web tools are presented here which are widely used by thestudents in targeted areas of this study.

Web 2.0 Technologies/Tools

Instant Messaging: WhatsApp, Viber, Line, Tango, Nimbuzz, Hike, Facebook, Messenger Skype, Telegram; **E-mails:** Gmail, Outlook, Yahoo!Mail, Rediffmai. Hotmail; **Blogs:** Wikispaces, Wordpress; **Wikis:** Wikipedia, Wiktionary, Answers. Wikia; **Tagging and Book Marking:** Instagram, Photobucket, Picasa, Shutterfly; **Video Hosting:** YouTube,Vimeo, Vine Daily Motion; **Social Networking Sites:** Facebook, YouTube, Twitter, LinkedIn, Pinterest Google Plus+, Tumblr, Instagram, Reddit, Flickr, Vine, ClassMates, Snapchat, Whatsapp, Viber; **BitTorrent (Download):** TorrentZ, The Pirate Bay, Bit Torrent; µTorrent; **Search Engines:** Google, Bing, Yahoo, Ask; **Cloud Storage:** One Drive, Dropbox, Google Drive, Skydrive, Box Mega.

II. BACKGROUND OF STUDY

Previous studies on awareness and usage of Web 2.0 Technologies by the University studentsand academic staff all over the world have revealed that its Technologies are popular with university students due to their flexibility and ease social collaboration. Web 2.0 tools have encompassed the all previous traditional web tools by incorporating upgraded features such as ubiquitous access, low cost, ease of use, functionality, and flexibility.

Sawant (2012)conducted a study on library and information science teachers and came to know that Web 2.0 offer new and innovative modes of learning for the teachers as well as students. Almost all respondents used Web 2.0 tools for various collaborative tasks in the academic process and they felt that Web 2.0 Tools equips learners and teachers with versatile tools for knowledge exchange and collaboration, which overcome the limitations of face to face instruction. **C. Okello-Obura and F. Ssekitto, (2015)** revealed that academic staff used Web 2.0 technologies in different engagement with students and They were well aware of most of the Web 2.0 tools and considered them as a useful platform for teaching and learning and were very satisfied. **C. C. S. Ping and T. Issa, (2010)** showed that the levels of awareness and knowledge of students using Web 2.0 was good and the percentage of students using Web 2.0 to organize group meetings, to communicate with other classmates, and to communicate with their tutors had greatly increased. Students found that Web 2.0 technologies are easy to use and very flexible. It facilitates easy networking and helps to complete, print, and submit assignments of the tutor or lecturer. **Gupta & Seth(2015)** found that most of the participants had their profile on social networking sites such as Facebook, Google Plus, Twitter and LinkedIn. They also specified that there is no significant difference between genders in the use of Web 2.0. The highly qualified respondents are much prominent users of Web 2.0 and also the respondents from urban areas were highly influenced by the Web 2.0.

Plenty of research studies have explore the immense learning potential of Web 2.0 technologies in higher education and research such as **Tyagi &Kumar, (2011)** revealed that almost all of the respondents had good knowledge about the Web 2.0. The use of Web 2.0 technologies had significant potential to support and enhance in the class teaching and learning in higher education. **Virkus (2008)** revealed that Web 2.0 technologies have been successfully adopted in teaching and learning at Tallin University because they provided a fantastic dynamic way in which people learn, access information and communicate with one another. **Diyaolu & Rifqah, (2014)** showed that although the majority of the students were not familiar with the term Web 2.0 but this does not hinder their use of the tools. It was also revealed that students found its use very relevant to their academics and mostly worked with Wikipedia, Wiki, and Google docs, blogs, Google translator, Facebook, Twitter, YouTube, Yahoo Messenger and various online groups for sharing school assignment, friendship gist, school information among others. **Salehe (2008)** observes that Web 2.0 tools have the potential in enhancing the sharing of teaching knowledge and in the context of awareness regarding Web 2.0 technologies he revealed by comparing the participants from two different countries that respondents of Ireland were more familiar with the Web 2.0 applications than that of Tanzania. Estonia. **Ullrich et al. (2008)** found that Web 2.0 is not only suitable for learning but also for research because it joins together several interesting technology supported learning applications at one platform. **Ajjan and Hartshorne (2007)** found that many respondents acknowledged pedagogical benefits of Web 2.0 applications in higher education. Blogs were viewed as the most useful Web 2.0 application in terms of improving student learning, increasing student-faculty interactions, improving student writing, improving student writing and ease of integration.

Matingwina, (2014) advocated through his research which was conducted in Zimbabwe that most students had excellent knowledge of specific Web 2.0 tools such as Instant Messaging and Social networking. Most tools were used mainly for communication purposes. **Tarade & Singh, (2015)** explored that librarians had a low level of familiarity with the use of Web 2.0 technologies in academic libraries. In order to the adoption of Web2.0 tools by librarians, they were required to prepare with sufficient knowledge of using Web 2.0 tools. **Majhi & Maharana, (2011)** exhibited that Majority of the university community is aware of the application of Web 2.0 as tools for communication. However, they had alack of awareness about the other applications of Web 2.0, particularly for learning purposes due to low awareness and accessibility.

Research Objectives

The purpose of this study is to explore the student'sawareness towards and usage of Web 2.0 Technologies in the teaching - learning process and to study their experiences while using it so the investigator enterprise the study to look for these following questions:

Q.1: To study awareness of B.Ed. Trainees about Web 2.0 Technologies.

Q.2: To find out common Web 2.0 technologies widely used by B.Ed. Trainees.

Q.3: To identify the various Web 2.0 technologies used by B.Ed. Trainees which are relevant to their teaching and learning.

III. METHODOLOGY

The sample of the study consisted of students (N=150) of B.Ed. Students from Department of Education of AMU Aligarh. The sample was randomly selected for the study. The population consists of both 57 boys and 93 girls. The participation in the study by the students was voluntary. A self-constructed questionnaire was used for the present study and for collecting necessary data.This data was tabulated and systematically analyzed, with the help of the Microsoft Excel, after a different operation like converting the data into percentage etc. and interpreted on the basis of objective format.

IV. FINDINGS AND DISCUSSION

This section discusses the result and findings of the study as that the awareness of B.Ed. Traineesregarding Web 2.0 Technologies were found to be considerably higher. The technologies which received more attention among Several Web 2.0 Technologiesand relevant to Teaching-learning Process of of B.Ed. Traineeswere Instant Messaging (WhatsApp), Wikipedia (En.Wikipedia), Social Networking Sites (Facebook), Emails (Gmail), Search Engines (Google), Cloud Storage (Google Drive), Torrents Sites/Clients (TorrentZ).

1. Awareness of Web 2.0 Technologies by B. Ed. Trainees:

The research study found that the majority of respondents were aware of following Technologies with respect to the percentage of respondents i.e. Instant Messaging96.67%, Wikipedia 95.34%, Social Networking Sites 94.00%, Emails 93.34%, Search Engines 92.00%, and Google apps 89.34%. These technologies occupied the highest percentage of the B.Ed. Trainees. The possible reason of high awareness of trainees towards technologies is that these are very useful, ubiquitous access to academic material frequently and to keep update them immediately in their area of interest such as lesson plans and teaching skills.

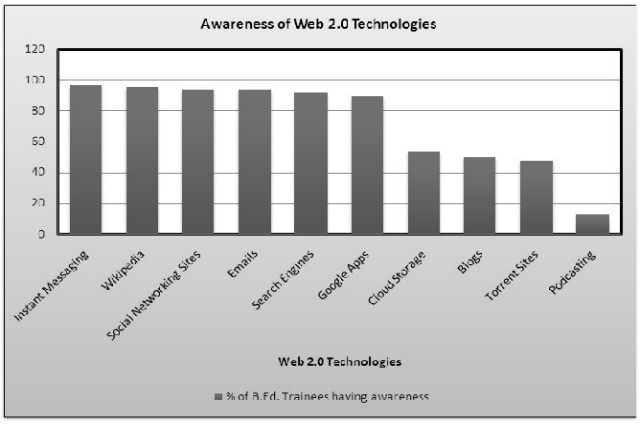

Figure 1. B.Ed. Trainees' awareness of Web 2.0 Technologies

2. Common Web 2.0 Technologies used by B.Ed. Trainees:

As far as common Web 2.0 Technologies widely used by B.Ed. Trainees are concerned, following Web 2.0 Tools were commonly used by B.Ed. Trainees among above mentioned broad categories of Web 2.0 Technologies as that they were using WhatsApp as instant messaging, En.Wikipedia as searching Wiki contents, Facebook as social networking, Gmail as email servicing, Google as Search Engine, Google drive as Cloud Storage and TorrentZ as torrent Sites or clients. B.Ed Trainees were using these tools very frequently for their different purpose of teaching and learning.

S. No.	Web 2.0 Technologies
1.	Instant Messaging (WhatsApp)
2.	Wikipedia (En.Wikipedia)
3.	Social Networking Sites (Facebook)
4.	Emails (Gmail)
5.	Search Engines (Google)
6.	Cloud Storage (Google Drive)
7.	Torrents Sites/Clients (TorrentZ)

3. Most Relevant Web 2.0 Tools for the Teaching-Learning Process of B.Ed. Trainees:

Regarding the most relevant Web 2.0 technologies for teaching learning process of the B.Ed. Trainees, The list of some specific Web 2.0 technologies related to the teaching and learning were made after analysis the data of the study. It is found that the majority of B.Ed. Trainees considered YouTube as the most relevant Web 2.0 tool in their teaching learning process because they used to found plenty of video according to their interested topics, lessons and assignments within a few secondsand it is followed by Wikipedia. Wikipedia provided not only general understanding of any subject by online reading but also a huge amount of content of their choice. Other Web 2.0 technologies are considered appropriate for teaching-learningprocess, including Google translator, Google doc, Facebook/Twitter, Online group, Dropbox, Blog, Yahoo messenger, SkyDrive, LinkedIn, Podcast.

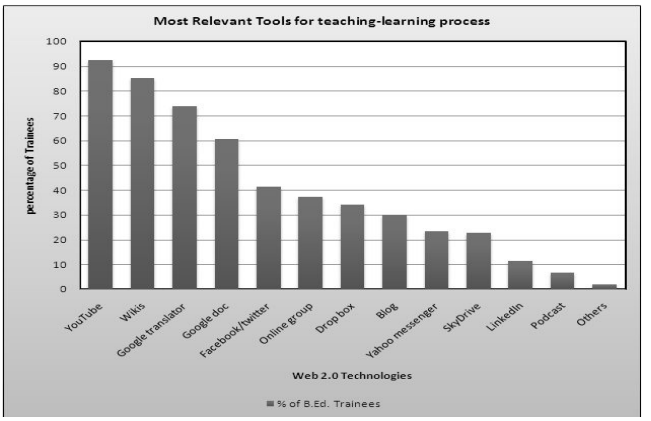

Figure 3: Most Relevant Web 2.0 Technologies for teaching-learning process

V. CONCLUSION

On the basis of findings of the present study, it is concluded that the awareness of Web 2.0 technologies was found to be high among the majority of the B.Ed. Trainees. They were using some Web 2.0 Tools very frequently in order to make their academic tasks easy and effective with the least amount of time. They were more aware of Instant Messaging, Wikipedia, Social Networking Sites, Email and Search Engines. They showed their familiarity more with Instant Messaging because of its utilization of instantly transferring information, pictures, contacts and particularly documents from one peer to another. Similarly, Wikipedia facilitates them with huge materials related to the course content. As using the Social Networking Sites have been become a fashion of the youngsters and matures too, B. Ed. Trainees of this department were not behind anyone. They are quite aware of SNS to use them for their personal interest and have the guts to use them for their academic activities. The majority of the trainees were using Email services as they all have their email accounts on various email providers. Search Engines are a prerequisite Web tool that is used by every user so a number of search engines were used by the majority of the B. Ed. B. Ed. Trainees alternatively. On the other hand B. Ed. Trainees exhibited low awareness about cloud Storage, Blogs, Torrents and Podcasting because of less utility of these Web tools in Indian scenario and lack of knowledge about the usefulness of these Web tools on the part of B. Ed. Trainees. The popularity of Instant messengers like WhatsApp, Facebook Messenger, Hike and Skype was found to be high. For social networking, Facebook and YouTube were usually preferred. Regarding usage of Search Engines, it is found that Google is used as default search engines by the sample students. Gmail, Wikipedia, and Google Drive are also popular among the students. YouTube and Wikipedia have occupied a central position in the teaching-learning process.

VI. SUGGESTIONS FOR FUTURE RESEARCH

Preset study can be extended over to the other universities, colleges and institutions. Detailed analysis can be taken to see practical application of using Web 2.0 technologies in education. Further studies could identify which barriers occur at which stages in the Web 2.0 technologies using process and what steps to be taken for removing these barriers and how to control discrimination in the availability and usage of these technologies in the institutions. Ultimately researcher believes that experimental studies are needed to improve and encourage learners and academic staff to use Web 2.0 technologies in education

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