

Full Length Research Paper

Web 2.0 for teaching, learning and assessment in higher education: A case study of universities in Western Uttar Pradesh (India)

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The main objective of the study is to conduct a usage analysis of Web 2.0 technologies in learning environment by faculties of selected universities at Western Uttar Pradesh. The present study sought to assess awareness of Web 2.0 and find out the use of wikis, blogs, RSS feed, social networks, podcasting, SNS, Mashup by the university faculties in Western Uttar Pradesh. The methodology for the proposed study is "survey method" with the help of structured questionnaire. The structured questionnaire is designed keeping in view of the stated objectives comprising of various types of questions, keeping in view of the aspects like total population of faculties in the university, perceived level of computer literacy, selection/recommendation of Web 2.0 tools, promotion of Web 2.0 technology and future plans to improve usage of Web 2.0 technologies in education. The sample consists of 4 Universities in the Western Uttar Pradesh. A questionnaire was distributed among the Professors, Associate Professors, Assistant Professors and Lecturers to collect desired data. A total of 120 questionnaires were distributed to the selected sample for the current year; 107 valid samples were collected and analyzed. Web 2.0 is especially useful and creative when knowledge is digitized, modular and allowed to be used and distributed in a flexible way. Study was carried out to know the awareness regarding Web 2.0 tools like blogs, Wikipedia, RSS feed, social networks, podcasting, and others SNS, Mashup. It is observed that almost all of the respondents have good knowledge about the Web 2.0. All of the respondents stated that the Web 2.0 technologies play important role in education. The author suggested that librarians in university libraries explore ways to provide reference service via text/SMS services. Offering training workshops on Web 2.0 tools and technologies to library patrons is also suggested. The author also recommended that libraries provide systematic training for staff on Web 2.0 technologies so as to alleviate their anxiety over technology. There exist a number of studies on the Web 2.0 applications, but this is the first of its kind within the Western Uttar Pradesh of India.

Key words: Web 2.0, library 2.0, blogs, wikis, RSS feed and social networking sites, google, yahoo.

INTRODUCTION

Web 2.0 could facilitate a change of paradigm in learning; from a top-down system focused in teachers and established knowledge to a networked approach where faculties should change their roles to become coaches

and facilitators of the learning process. The needs of our contemporary societies pay special attention to innovation and entrepreneurship as basic abilities for the future of our graduates. Learning by doing and applying methods for collaborative and active learning are essential approaches and the Web 2.0 could be an instrumental and strategic tool in their development (Freire, 2007). Tim O'Reilly, who created the term „Web2.0" describes it as "the business revolution in the

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computer industry caused by the move to the internet as platform, and an attempt to understand the rules for success on that new platform". The term and its definition(s) have been the cause of much debate but many services within Web 2.0 allow users to easily share opinions and resources (Anderson,2007). Web 2.0 could be defined from a technological point of view as a loosely-coupled system of Internet applications, but represents also a "Trojan horse" for a new social and cultural paradigm. In this sense it could be defined as technologies for the social creation of knowledge, comprising three main characteristics (Freire, 2007).

Technology

Internet moves from "push" to "pull"; from an era 1.0 associated to the old hierarchical portals and a restricted group of content creators to searching engines, aggregators and user-based content typical of the era 2.0.

Knowledge

Web 2.0 is challenging copyright (the strict protection of intellectual property) because the open source paradigm (allowing for open access and creative remix of contents) has demonstrated important competitive advantages, allowing for more creativity and productivity. This new open knowledge paradigm is grounded in the success of free software and the old tradition of scientific communities, and is characterized by four properties: independent ("free speech"), cost of distribution is zero or very low ("free beer"), modularity and generative capacity. In this sense, the modularity or granularity of open content shared in networks allows for the development of the complete creative potential of remix.

Users

The shift from consumers to active users participating as curators and creators that characterize Web 2.0 has been sometimes defined as the "revenge of amateurs" and modifies the traditional roles of the agents of the chain value of knowledge creation and consumption. Many faculties, students and staffs in universities, colleges and institutions in their workplaces throughout the country have begun to incorporate Web 2.0 technologies into their learning environment but in comparison to others, many in Western Uttar Pradesh are still beginning to use Web 2.0 for personal and vocational purposes. With the extensive increase in popularity of Web 2.0 sites in recent years, educational institutions are now presented with students whom are already well versed in the use of social networking applications, of blogging, Wiki articles and of videos and podcasts. In this circumstances, the

faculties in Western Uttar Pradesh have to adopt Web 2.0 tools (wiki's, blogs, RSS feed, collaborative writing, video sharing, social networks, etc.) to support innovative teaching.

RESEARCH PROBLEM

The adoption of Web 2.0 tools at universities is associated with important challenges (potential risks, institutional fears) and an effective strategy to deal with implementation problems may therefore include learning from (others") experience, as well as open access to content and reliance on open platforms for knowledge sharing and creation (Freire, 2007). The research problem in this instance is the analysis of the suitability of Web 2.0 tools in the education environment. Western Uttar Pradesh is the educational hub of India and faculties in educational institutions have begun to incorporate Web 2.0 technologies into their learning environment. So far, no study exists to know the use of Web 2.0 technologies in education in universities at Western Uttar Pradesh.

SCOPE OF THE STUDY

The present study deals with usage analysis of Web 2.0 technologies by faculties in selected universities at Western Uttar Pradesh of India. The geographical area is restricted to Western UP only. This can be extended over to the other universities, colleges and institutions. Detailed analysis can be taken to see the impact of 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 how can these obstacles be overcome. The present study is confined to four universities (owned by Central government, State government and Private management) of Western UP namely: (i) Chaudhary Charan Singh University, Meerut; (ii) Sardar Vallabh Bhai Patel University of Agriculture and Technology, Meerut; (iii) Swami Vivekanand Subharti University, Meerut; and (iv) Shobhit University, Meerut.

LITERATURE REVIEW

The adoption of Web 2.0 tools at universities is associated with important challenges (potential risks, institutional fears) and an effective strategy to deal with implementation problems may therefore include learning from (others") experience, as well as open access to content and reliance on open platforms for knowledge sharing and creation (Freire, 2007). There are numerous models for the integration of Web 2.0 in higher education (Grosbeck, 2009) and their use is associated with considerable advantages (flexibility, e-learning activities,

sharing of knowledge/experiences and resources, didactic innovation, etc.), as well as disadvantages (potential problems with technology and quality of content, limited security, diversity of technologies, etc.). Also, there are indications that students perceive benefits as well as difficulties arising from the use of Web 2.0 tools in university courses in comparison to the use of traditional e-learning tools and classroom lectures (Kumar, 2009). Waycott et al. (2010) in their article they describe an Australian project that is investigating how lecturers are using Web 2.0 activities in university assessment tasks. In the first stage of the project we documented current Web 2.0 assessment practices by conducting a survey and interviews with lecturers who teach in different discipline areas across Australia. Initial findings from this stage of the project are presented here, with a focus on using examples from the interviews to illustrate the opportunities and challenges that Web 2.0 affordances introduce for learning, teaching and assessment in higher education. Student authoring in Web 2.0 environments can be quite different from traditional academic writing tasks. Using Web 2.0 technologies, students can publish their work to an open audience, use different communication styles and texts, draw on their unique personal identity and experiences, co-create content with other students and manage their content outside the confines of the university. Each of these affordances provides opportunities for enhancing students' learning in higher education, while simultaneously imposing new ways of thinking about scholarly writing and assessment that can be challenging for both students and staff.

Fuchs (2011) discussed Web 2.0 platforms such as YouTube, MySpace, Facebook, Flickr and Twitter that focus on data sharing; communication, community, and co-production have become very popular. It is therefore important to understand the economic organization of these platforms. The discussion of surveillance in Web 2.0 is important because such platforms collect huge amounts of personal data in order to work. In this paper, first the example of Google Buzz is discussed. Next, a model that conceptualizes the cycle of capital accumulation and distinguishes between production and circulation of capital is introduced, after which the role of surveillance in Web 2.0 is outlined based on the cycle of capital accumulation. The notions of the Internet prosumer commodity and Web 2.0 surveillance are introduced in order to characterize the relationship of production, consumption and surveillance on Web 2.0. Redish and Chisnell (2004) reviewed a large number of articles, books, presentations, Websites and papers published between 2000 and 2004 relating to web design for older adults. They were looking for broad usability issues for older Web users, while this review aims to identify opportunities to extend the existing WAI technical, education, and outreach work to accommodate the overlapping needs of people with disabilities and

older adults with age related functional limitations. Redish and Chisnell were not surprised to find that much of what they found in the literature about older adults on the Web is good usable design for everyone – consistent navigation, clear writing, skim-able text with lists, etc. Another aspect of the elderly that their study reinforced is that older adults are not a homogenous group – something that many others have also commented on. Czerwinski and Larson (2002) discuss some basic principles from cognitive science that should be applied to Website design, in particular how grouping and symmetry can be applied to leverage visual perception and attention, and the use of spatial layout to leverage human spatial memory. This later principle supports Jacob Nielsen's suggestions that "users prefer your site to work the same way as all the other sites they already know" (Nielsen, 2000). Czerwinski and Larson (2002) also raise an interesting phenomenon of cognition and the Web that applies to many users, but may apply particularly to elderly users and is particularly relevant with the move to scripted partial page updates. The phenomenon is "change blindness" where small changes on a page are not noticed by the user. This „blindness“ may be due to distraction, or may be related to concentration and perception. For some users it may actually not even be within the current view, depending on the size of the current browser window and how much of the page is actually displayed. Majhi and Maharana (2011) conducted a study on familiarity of Web 2.0 and its application in learning in two Indian Universities. The study was conducted to assess the familiarity of Web 2.0 tools and their application in learning. The investigators conducted a survey of about 500 respondents including students, teachers and research scholars of Utkal and Sambalpur Universities in the State of Odisha. A structured questionnaire was designed to elicit information pertaining to the familiarity of the academic community with the Web 2.0 tools and their use for teaching, learning and research. Results revealed that the usage of Web 2.0 tools is not very significant in either of the two universities in Odisha. Wiki and social networking sites are most commonly used by the respondents. However, blog, RSS (really simple syndication) social bookmarking and audio/video, etc., with high degree of educational value are not yet popular among the academic communities. Further, the research found that the academic communities are quite interested to use those tools in their learning process, but they do not have sufficient knowledge and skills to use them. The findings of this study have both theoretical as well as practical implications for academicians, learners and policy makers in the universities.

RESEARCH OBJECTIVES

The main objective of the study is to conduct a usage

Table 1. Demographics of respondents.

Designation	Response	Percentage (%)
Professors	19	17.76
Associate professors	27	25.23
Assistant professors	14	13.08
Lecturers	47	43.93
Total	107	100

analysis of Web 2.0 technologies in learning environment by faculties of selected universities at Western Uttar Pradesh. The other objectives are as follows:

- i) To make a survey in order to assess awareness of Web 2.0 among the university faculties in Western Uttar Pradesh.
- ii) To find out the use of wikis, blogs, RSS feed, social networks, podcasting, SNS, Mashup by the university faculties in learning environment and their personal life at Western Uttar Pradesh.

RESEARCH HYPOTHESES

The research hypotheses are:

- i) Faculties with high digital competence and a positive attitude towards Web 2.0 tools are more positive than average.
- ii) Younger faculties are more positive than older.
- iii) Gender does not play any particular role.

RESEARCH METHODOLOGY

The methodology for the proposed study is "survey method" with the help of structured questionnaire. The structured questionnaire is designed keeping in view of the stated objectives comprising of various types of questions, keeping in view of the aspects like total population of faculties in the university, perceived level of computer literacy, selection/recommendation of Web 2.0 tools, promotion of Web 2.0 technology and future plans to improve usage of Web 2.0 technologies in education. The primary data collected from the university's faculties of the study universities through structured user questionnaire. Non-probability sampling specifically accidental and purposive technique was applied in the collection of primary data through the administration of questionnaire. The secondary data collected from the study universities through university records, annual reports, plans, websites and other relevant documents/sources. The sample respondents chosen for the study consists of Professors, Associate Professors, Assistant Professors and Lecturers of different streams and departments (Agriculture, Arts, Education, Engineering, Management and Science). A total of 120 questionnaires (out of total population 593) were distributed (randomly) to the selected sample for the current year; 107 valid samples were collected and analyzed. A pilot study was conducted to streamline the user questionnaire in all of the study universities. The collected data from questionnaires is analyzed with suitable statistical methods (descriptive statistics). The defects such as

features and subject etc. are rectified and finally questionnaire is free from ambiguity.

The primary data collected through structured questionnaire is analyzed by using suitable statistical techniques like descriptive statistics.

SURVEY RESULTS

Demographics of respondents

By job roles: 19 (17.76%) were professors, 27 (25.23%) were Associate Professors, 14 (13.08%) were Assistant Professors and 47 (43.93%) were Lecturers (Table 1).

Awareness about Web 2.0

Study was carried out to know the awareness regarding Web 2.0 tools like blogs, Wikipedia, RSS feed, social networks, podcasting, and others SNS, Mashup. The analysis is depicted in Table 2. It is observed that almost all of the respondents have good knowledge of Web 2.0 tools (Table 2).

Web 2.0 applications

Among those that have used Web 2.0 applications for different purposes is depicted in Table 3. Among Professors 17 (89.47%) have used mostly blogs and RSS feed. Of the population of Associate Professors 23 (85.19%) have used blogs and 21 (77.78%) have used RSS. Among Assistant Professors 11 (78.57%) have used RSS and 10 (71.43%) have used blogs. Lecturers indicated that they have used Web 2.0 tools such as blogs 39 (82.98%) and RSS 31 (65.96%). The study observed that blogs and RSS feed are the most frequent used Web 2.0 applications among the respondents which is followed by wikis and social bookmarking (Table 3).

Blogs most popular

WATBlog is the most popular blog service provider among the respondents for the personal and educational purposes, which is followed by Digital Inspiration in

Table 2. Awareness about Web 2.0.

Web 2.0 knowledge	Professional status							
	Professors		Associate professors		Assistant professors		Lecturers	
	Yes (%)	No (%)	Yes (%)	No (%)	Yes (%)	No (%)	Yes	No (%)
Blogs	19 (100)	0.0	27 (100)	0.0	14 (100)	0.0	47 (100)	0.0
Wikis	19 (100)	0.0	27 (100)	0.0	14 (100)	0.0	47 (100)	0.0
RSS feed	19 (100)	0.0	27 (100)	0.0	14 (100)	0.0	47 (100)	0.0
Social bookmarking	19 (100)	0.0	27 (100)	0.0	14 (100)	0.0	47 (100)	0.0
Podcasting	19 (100)	0.0	27 (100)	0.0	14 (100)	0.0	47 (100)	0.0
Other (SNS, Mashups)	19 (100)	0.0	27 (100)	0.0	14 (100)	0.0	47 (100)	0.0

Table 3. Web 2.0 applications.

Web 2.0 applications	Professional status			
	Professors (%)	Associate professors (%)	Assistant Professors (%)	Lecturers (%)
Blogs	17 (89.47)	23 (85.19)	10 (71.43)	39 (82.98)
Wikis	13 (68.42)	14 (51.85)	09 (64.29)	28 (59.57)
RSS feed	17 (89.47)	21 (77.78)	11 (78.57)	31 (65.96)
Social bookmarking	11 (57.89)	19 (70.37)	08 (57.14)	23 (48.94)
Podcasting	07 (36.84)	05 (18.52)	03 (21.83)	19 (40.43)
Other (SNS, Mashups, etc)	03 (15.79)	02 (07.41)	01 (07.14)	07 (14.89)

Table 4. Blogs most popular.

Popular blogs	Professional status			
	Professors (%)	Associate professors (%)	Assistant professors (%)	Lecturers (%)
Digital inspiration	09 (47.37)	11 (40.74)	02 (14.29)	12 (25.53)
pluGGd.in	05 (26.32)	07 (25.93)	01 (07.14)	08 (17.02)
WATBlog.com	11 (57.89)	13 (48.15)	07 (50.00)	17 (36.17)
Fone arena - The mobile weblog	07 (36.84)	03 (11.11)	01 (07.14)	09 (19.15)
The India Uncut Blog	06 (31.58)	02 (07.41)	01 (07.14)	10 (21.28)
MediaNama	03 (15.79)	08 (29.63)	02 (14.29)	05 (10.64)
Others	04 (21.05)	09 (33.33)	03 (21.43)	07 (14.89)

popularity. plugGGd, Fone Arena, the India Uncut blog and MediaNama are also mentioned. Yet, there are still majorities who do not use blogs (Table 4).

Information about blogs application

It is observed from Table 5 that 47.37% of population out of the Professors has their own blog and 57.89% add posts to blog, whereas only 26.36% of the population read blogs of others. Of the population of Associate Professors, 40.74% have their own blogs whereas 48.15% add posts to blog. 14.29% Population of Assistant Professors have their blogs whereas 50.00% add posts to blog. In case of Lecturers, 25.53%

populations have their personal blogs whereas 36.17% of the populations of Lecturers add posts to blog (Table 5).

Wikis most favorite

It is observed from Table 6 that Wikipedia used mostly by the respondent which is followed by answers.wikia in popularity. The other usage is depicted in Table 6.

Information about wikis application

It is observed from Table 7 that 57.89% population of the Professors has read entries from wikipedia whereas

Table 5. Information about blogs.

Information about blogs	Professional status			
	Professors (%)	Associate professors (%)	Assistant professors (%)	Lecturers (%)
Faculties who have their own blog for personal and educational purposes.	09 (47.37)	11 (40.74)	02 (14.29)	12 (25.53)
Faculties who read blog of others.	05 (26.32)	07 (25.93)	01 (07.14)	08 (17.02)
Faculties who add posts to blog keeping in view of the educational purposes.	11 (57.89)	13 (48.15)	07 (50.00)	17 (36.17)

Table 6. Wikis most favorite.

Wikis most favorite	Professional status			
	Professors (%)	Associated professors (%)	Assistant professors (%)	Lecturers (%)
en.wikipedia	11 (57.89)	13 (48.15)	10 (71.43)	17 (36.17)
en.wiktionary	07 (36.84)	02 (07.41)	02 (14.29)	01 (02.13)
fr.wiktionary	03 (15.79)	03 (11.11)	01 (07.14)	0.0
answers.wikia	05 (26.32)	09 (33.33)	01 (07.14)	05 (10.64)
reviews.wikia	02 (10.53)	03 (11.11)	01 (07.14)	0.0
Others	02 (10.53)	02 (07.41)	0.0	0.0

Table 7. Information about wikis application.

Information about wikis	Professional status			
	Professors	Associate professors (%)	Assistant professors (%)	Lecturers (%)
Faculty members who read entries from Wikipedia for education/personal purposes.	11 (57.89)	11 (40.74)	10 (71.43)	17 (36.17)
Faculty members who add entries in Wikipedia for education/personal purposes.	02 (10.53)	03 (11.11)	02 (14.29)	01 (02.13)
Faculty members who edit entries in Wikipedia for education/personal purposes.	02 (10.53)	02 (07.41)	01 (07.14)	0.0

10.53% add and edit entries in Wikipedia which is very useful. Of the population of Associate Professors, 40.74% have read entries from wikipedia whereas 11.11% add entries in wikipedia. 71.43% population of Assistant Professors has read entries from wikipedia and 14.29% add entries in wikipedia. 36.17% Lecturers have read entries from wikipedia and only 02.13% of the population of Lecturers add

entries in wikipedia (Table 7).

RSS feed reader (RDF site summary, or rich site summary, or really simple syndication) application

As far as practical use of Web 2.0 technologies, many libraries in the world are using RSS to

provide news type information such as science and technology news, library announcements of new books and other new library resources, subject RSS feeds, journal abstract RSS feeds, and personalized resources and services in general. It is observed from Table 8 that Google Reader is the most popular RSS reader whereas, My yahoo and Bloglines are popular as well (Table 8).

Table 8. RSS feed reader application.

RSS readers	Professional status			
	Professors (%)	Associated professors (%)	Assistant professors (%)	Lecturers (%)
My yahoo	13 (68.42)	09 (33.33)	01 (07.14)	05 (10.64)
Bloglines	13 (68.42)	03 (11.11)	02 (14.29)	05 (10.64)
Thunderbird	03 (15.79)	0.0	0.0	0.0
RssReader	05 (26.32)	0.0	0.0	0.0
Opera RSS reader	03 (15.79)	0.0	0.0	01 (02.13)
Google reader	17 (89.47)	13 (48.15)	10 (71.43)	17 (36.17)
Others	02 (10.53)	02 (07.41)	0.0	01 (02.13)

Table 9. Social bookmarking tools.

Social bookmarking	Professional status			
	Professors (%)	Associated professors (%)	Assistant professors (%)	Lecturers (%)
Slashdot.org	02 (10.53)	0.0	0.0	0.0
Digg.com	0.0	0.0	0.0	0.0
Delicious.com	13 (68.42)	09 (33.33)	11 (78.57)	05 (10.64)
Technorati.com	0.0	0.0	0.0	0.0
others	02 (10.53)	02 (07.41)	0.0	0.0

Social bookmarking tools

Delicious (<http://del.icio.us/>) is the number one favorite social bookmarking tools among the respondents. The other popular social bookmarking tools are depicted in Table 9.

Sharing sites (video, photo, book, movie, music etc) application

Among sharing sites (video, photo, book, movie, music etc) orkut is the most favorite one which is followed by facebook, flickr and youtube. The other favorite sharing sites is depicted in Table 10.

The respondents were asked whether their university library provided training on Web 2.0 technologies, but none of the respondents indicated that their university library provide some training for Web 2.0 technology. The respondents suggested that the university libraries should provide training to users on Web 2.0 technology, through a 1-h seminar or as part of a literature search course.

The respondents were asked whether their university library provided IM (instant messaging) and SMS (text messaging) reference services; apparently there was some confusion of the terminology IM and virtual chat reference service.

None university libraries used the term of instant chat reference service.

Web 2.0 technologies in education

The respondents were asked as Web 2.0 technologies helpful in education. On analyzing the data it is observed that all stated that the Web 2.0 technologies play important role in education. The results are shown in Table 11.

Web 2.0 applications in education

The respondents were asked to give reasons as to why they valued Web 2.0 application in education. 100% population of the respondents stated that Web 2.0 broadened faculty" perspective, and facilitated obtaining students" feedback and following students" interest trends, drew on collective knowledge to better serve, improved teachers" inter-departmental communication, facilitated instant problem solving with the benefit, improved knowledge sharing and collaboration (Table 12).

Satisfaction level

Faculties in this study were asked about the satisfaction with current usage of Web 2.0 tools which is a very important variable to investigate user behavior. All the faculties belonging to the concern universities were satisfied with current usage of Web 2.0 tools (Table 13).

Table 10. Sharing sites (Video, photo, book, movie, music etc) application.

Sharing sites (video, photo, book, movie, music, etc.)	Professional status			
	Professors (%)	Associated professors (%)	Assistant professors (%)	Lecturers (%)
youtube.com	13 (68.42)	21 (77.78)	10 (71.43)	17 (36.17)
megavideo.com	03 (15.79)	02 (07.41)	01 (07.14)	05 (10.64)
facebook.com	17 (89.47)	23 (85.19)	11 (78.57)	31 (65.96)
flickr.com	13 (68.42)	14 (51.85)	09 (64.29)	28 (59.57)
Orkut.com	17 (89.47)	23 (85.19)	11 (78.57)	31 (65.96)

Table 11. Web 2.0 technologies in education.

Web 2.0 in education	Professional status							
	Professors		Associate professors		Assistant professors		Lecturers	
	Yes (%)	No (%)	Yes (%)	No (%)	Yes (%)	No (%)	Yes (%)	No (%)
Is Web 2.0 technology helpful in education?	19 (100)	0.0	27 (100)	0.0	14 (100)	0.0	47 (100)	0.0
Not helpful.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
No comments.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 12. Web 2.0 applications in education.

Web 2.0 applications in education	Professional status			
	Professors (%)	Associated professors (%)	Assistant professors (%)	Lecturers (%)
Broadened faculty' perspective, and facilitated obtaining students' feedback and following students' interest trends.	19 (100)	27 (100)	14 (100)	47 (100)
Drew on collective knowledge to better serve.	19 (100)	27 (100)	14 (100)	47 (100)
Improved teachers' inter-departmental communication.	19 (100)	27 (100)	14 (100)	47 (100)
Facilitated instant problem solving with the benefit.	19 (100)	27 (100)	14 (100)	47 (100)
Improved knowledge sharing and collaboration.	19 (100)	27 (100)	14 (100)	47 (100)

Conclusions

The use of Web 2.0 technologies has significant potential to support and enhance in-class teaching and learning in higher education. Currently, profit

organizations are using Web 2.0 technologies to foster work collaboration (Dearstyne, 2007). Now it is up to educators to utilize these technologies to effectively support and enhance their instruction. The use of technology to support in-

class learning has changed over the decades. Most faculties today utilize technology in their instruction as mechanisms for course content delivery, grade delivery and basic communication (Maloney, 2007). However, an effective learning

Table 13. Satisfaction level with the usage of Web 2.0 technologies.

Satisfaction level with web 2.0 application	Professional Status			
	Professors (%)	Associate professors (%)	Assistant professors (%)	Lecturers (%)
Satisfied	19 (100)	27 (100)	14 (100)	47 (100)
Moderately satisfied	0.0	0.0	0.0	0.0
Dissatisfied	0.0	0.0	0.0	0.0
No Comments	0.0	0.0	0.0	0.0

environment fosters collaboration among students and faculty; allows the student to create and share new knowledge; as well as support the connection of different pieces of information. The result shows that the percentage of respondents while using Web 2.0 tools is small but this is a good start by the faculties in Western Uttar Pradesh which encourage other faculties of the country. The results of this study provide evidence that most faculty feel that integrating Web 2.0 technologies such as blogs and wikis into the classroom learning environment can be effective at increasing students' satisfaction with the course, improve their learning and their writing ability, and increase student interaction with other students and faculty; thus changing the students' role from passive to active learners, allowing them to better create and retain knowledge (Maloney, 2007). The results also indicate that the faculty attitude and their perceived behavioral control are strong predictors to their intention to use Web 2.0. This suggests that administrators interested in increasing the use of Web 2.0 in the classroom might focus their attention, efforts, and investments on improving faculty attitude and enhance their perceived behavioral control of Web 2.0 use.

More specifically, these efforts should focus on improving the perceived usefulness, ease of use, and compatibility (with current practices) of Web 2.0 applications, as well as improving faculty's self efficacy with these emerging technological tools. Additionally, while these tools show pedagogical promise, "best practices" models are needed to further facilitate the adoption of these emerging technologies as tools for improving teaching and learning in higher education.

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QUESTIONNAIRE FOR USERS

1) Are you a:

- a) Professor
- b) Associate professor
- c) Assistant professor
- d) Lecturer

2) Are you aware with the mentioned Web 2.0 tools

- a) Blogs
- b) Wikis
- c) RSS feed
- d) Social bookmarking
- e) Podcasting
- f) Other (SNS, Mashups)

3) Please specify (✓) which Web 2.0 tool you use mostly:

- a) Blogs
- b) Wikis
- c) RSS feed
- d) Social bookmarking
- e) Podcasting
- f) Other (SNS, Mashups)

4) Please specify (✓) which blog is most popular among you:

- a) Digital inspiration
- b) pluGGd.in
- c) WATBlog.com
- d) Fone arena - the mobile weblog
- e) The India uncut blog
- f) MediaNama
- g) Others

5) Please tick (✓) on the information about the blogs:

- a) Faculty members who have their own blog
- b) Faculty members who read blog of others
- c) Faculty members who add posts to blog

6) Please specify (✓) which wikis is most popular among you:

- a) en.wikipedia
- b) en.wiktionary
- c) fr.wiktionary
- d) answers.wikia
- e) reviews.wikia
- f) Others

7) Please tick (√) on the information about the wikis:

- a) Faculty members who read entries from Wikipedia
- b) Faculty members who add entries in Wikipedia
- c) Faculty members who edit entries in Wikipedia

8) Please specify (√) which RSS reader is most popular among you:

- a) My yahoo
- b) Bloglines
- c) Firefox LiveBookmarks
- d) NetNewsWire
- e) NewsGator Online
- f) Reader not identified
- g) Thunderbird
- h) RssReader
- i) Opera RSS reader
- j) Google reader
- k) Others

9) Please specify (√) which social bookmarking tool is most popular among you:

- a) Slashdot.org
- b) Digg.com
- c) Reddit.com
- d) Stumbleupon.com
- e) Squidoo.com
- f) Delicious.com
- g) Technorati.com
- h) mix.com
- i) folkd.com
- j) others

10) Please specify (√) which sharing sites (video, photo, book, movie, music, etc.) are most popular among you

- a) youtube.com
- b) megavideo.com
- c) facebook.com
- d) mp3pk.com
- e) way2sms.com
- f) flickr.com
- g) Orkut.com

11) Please specify (√) whether university provides training on Web 2.0 technologies:

- a) CCS University
- b) SVP University
- c) Swami Vivekanand Subharti University
- d) Shobhit University

12) Please specify (√) whether university provides IM (instant messaging) and SMS (text messaging) reference services:

- a) CCS University
- b) SVP University
- c) Swami Vivekanand Subharti University
- d) Shobhit University

13) Please specify (✓) Web 2.0 technologies helpful in education:

- a) Is Web 2.0 technology helpful in education
- b) Not helpful
- c) No comments

14) Please specify the nature of benefit of Web 2.0 technologies in education:

- a) Broadened faculty" perspective, and facilitated obtaining students" feedback and following students" interest trends
- b) Drew on collective knowledge to better serve
- c) Improved teachers" inter-departmental communication
- d) Facilitated instant problem solving with the benefit
- e) Improved knowledge sharing and collaboration

15) Satisfaction level with the usage of Web 2.0 technologies:

- a) Satisfied
- b) Moderately satisfied
- c) Dissatisfied
- d) No comments