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Information Literacy through Web 2.0 Technologies: Case Study of Four Engineering Colleges in West Bengal

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Abstract

The web has transformed the ways in which people search, find, use and communicate information. Web 2.0 technologies have become the subject of interest as they facilitate interactive information sharing, interoperability, dynamic content, openness, and user participation. This paper assesses the need for developing Information Literacy skills with the help of web 2.0 technologies in four engineering institutions coming under Moulana Abul Kalam Institute of Technology (MAKAUT). A questionnaire was the instrument used for data collection. The paper concludes that the concept of information literacy using web 2.0 technologies in the technical institute of MAKAUT is in a developing stage.

Keywords: Information Literacy, Web 2.0, ICT, MAKAUT

1. Introduction

This article suggests that engineering colleges in West Bengal re-design their information literacy programmes that promote collaborative and personalized learning for information professionals, faculty, and staff. The article also focuses on areas like i.e. (1) integrating information literacy across the curriculum, (2) challenges encountered in using web 2.0 technologies (3) Responses to use of web 2.0 technologies (4) Obstacles to effective Information literacy. By using Web 2.0 technologies for information literacy programmes we can better prepare our patrons for long-term critical thinking and evaluation (Dupuis, 1997). Information literacy programmes are in a preliminary stage in our academic institutions. Information literacy has several aspects that redefine how we provide services, also requires awareness of the educational and social landscape in which librarians and faculty as well as technical assistants of the concerned institution teach and learn (Horton, 1983). The major trends that influence this landscape have a profound influence on information literacy through Web 2.0 technologies, Maulana Abul Kalam Azad University of Technology (MAKAUT), West Bengal, formerly West Bengal University of Technology (WBUT), is a state university located in Kolkata, India. Founded in 2000 and funded initially by the Government of West Bengal, it offers degree and advanced-level programmes in engineering, management and other areas. The University formally came into existence on August 5, 2000 (Weighted arithmetic mean, 2018).

2. Objectives

The basic objectives of this study are to highlight the need for and importance of information literacy in engineering colleges under MAKAUT.

1. To examine awareness about Information literacy and web 2.0 technology among the librarian and professionals in the engineering colleges,
2. To demonstrate information literacy instruction using web 2.0 technology, and

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3. To identify the administrative barriers, and technical issues in implementing information literacy using web 2.0 technologies.

3. Literature Review

The American Library Association Presidential Committee on information literacy recognized the the importance of IL to a democratic society. It says: "to be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate and use the needed information" (American Library Association Presidential Committee on Information Literacy, 1989).

Library and Informational professionals, faculty of different stream and technical staff in every academic institute play an important role in imparting information literacy through web 2.0 technologies. Students do not have enough knowledge about these technologies at the beginning of their academic activity (Benjamin, 2013). The library professional, the faculty and technical staff are natural in-house experts and they play a vital role. Responsibilities of faculty, staff and librarian in promoting information literacy within academic environments (Deekle & De Klerke, 1992).

Brock (1994) suggested that librarian and teachers play an important role as information intermediaries and also suggested a model for information literacy instruction along with some technologies.

Baker (1995) suggested that information literacy is appropriate for every educated person to cope with some technologies.

Cunningham and Lanning, Scott (2002) suggested the involvement of faculty and librarians in promoting and designing information literacy using new technologies in institutions Galvin (2005). Elaborated some strategies for promoting information literacy programme in institutions.

Dunaway (2011) illustrated the new openings of Library and Information science across the world. It has also mentioned the role of web 2.0 technology in imparting information literacy programme in institutions.

Doyle (1995) suggested the concept of Information literacy along with ICT and application of these technologies in institutions.

Herrington (1998) described the impact of technologies in information literacy in academic institutions.

4. Methodology

The present study is confined to library professionals, technical staff and faculty of engineering colleges under MAKAUT. A questionnaire was used as the tool to collect data. Four librarians, eight faculty members, two professional assistants and five technical staff members in different colleges under MAKAUT responded to the survey.

Weighted Arithmetic Mean (WAM) was used for the analysis of data collected. A weight was assigned to each variable considering its relative importance. A score ranging from 1 to 5 was allotted to quantify responses (5 for strongly agree and 1 for strongly disagree).

5. Types of Web 2.0 Technologies Used by Institutions for Information Literacy

The data collected revealed that Social networking sites i.e. Facebook, Twitter, Linkedin and Media sharing i.e. Youtube, Flickr, Slideshare got the highest acceptance rate 7 (36.84%) and 4 (21.05%) respectively. It was also found that Instant messaging 3(15.78) and Wikis 2 (10.52) were used by the respondents. Only one respondent used Blog, Podcast and RSS feeds for information literacy instruction (Table 1).

Table 1. Types of web 2.0 technologies

Types of Web 2.0 technologies	No. of respondents
Blog	1
Wikis	2
Instant messaging	3
Podcast	1
Webcast	0
RSS feeds	1
Social networking sites i.e. Facebook, Twitter, Linkedin	7
Media sharing i.e. Youtube, Flickr, Slideshare	4

5.1 Awareness about Information Literacy

The present survey aimed at looking the level of awareness of web 2.0 technologies in four engineering colleges in West Bengal. An attempt was made to investigate the awareness about IL among the Librarian, faculty members and technical staff. It was found that majority of respondents were quite aware about Information literacy (Table 2).

Table 2. Awareness about IL

Awareness about Information literacy	No. of respondents	Percentage
Aware about the term IL	9	47.36
Well aware about the term IL	6	31.57
Unaware about the term IL	3	15.78
Undecided	1	5.26

5.2 Ideas about Web 2.0 Technologies

As far as Web 2.0 technology is concerned. 18 out of the 19 respondents were aware of these technologies. Only one respondent was unaware of Web 2.0 technologies (Table 3).

Table 3. shows the ideas about web 2.0 technologies

Ideas about Web 2.0 technologies	No. of respondents	Percentage
Aware about Web 2.0 technologies	13	68.42
Well aware about Web 2.0 technologies	5	26.31
Unaware about Web 2.0 technologies	1	5.26
Undecided	0	0

5.3 Information Literacy with Web 2.0 Technologies

Based on a 5-point Likert scale, respondents' awareness about 8 web 2.0 technologies for Information literacy instruction was assessed. To calculate WAM, a weight was assigned to each response viz, score of 5 was allotted to 'Strongly agree', 4 for 'Agree', 3 for 'No comments', 2 for 'Disagree', and 1 for 'Strongly disagree'. It is clear from Table 4 and Figure 1 that majority of the respondents *agreed* with the idea of sharing materials on Information literacy through web 2.0 technologies. There was also a considerable degree of agreement that IL should be an 'academic subject matter'.

Table 4. Responses of Information literacy related with of web 2.0 technologies

Sl. No.	Literacy related with of web 2.0 tech-nologies	Strongly agree	Agree	No comments	Dis-agree	Strongly disagree	WAM	Rank
1.	Informa-tion literacy as an academic matters	12 (63.15)	3 (15.78)	0	3 (15.78)	1 (5.26)	5.26	2
2.	Sharing materials on IL through web 2.0 tech-nology	9 (47.36)	7 (36.84)	0	2 (10.52)	1 (5.26)	5.33	1
3.	Helps in online distance learning	6 (31.57)	6 (31.57)	1 (5.26)	4 (21.05)	2 (10.52)	4.46	6
4.	Web 2.0 for classroom announcements and discussion	6 (31.57)	7 (36.84)	0	5 (26.31)	1 (5.26)	4.6	5
5.	Tech-nology helps in students assess-ment and assign-ments	5 (26.31)	9 (47.36)	0	2 (10.52)	3 (15.78)	4.53	4
6.	Platform for infor-mation gathering	4 (21.05)	7 (36.84)	2 (10.52)	4 (21.05)	2 (10.52)	4.26	7
7.	IL Assist in collabo-ration with scholars through web 2.0	8 (42.105)	6 (31.57)	0	3 (15.78)	2 (10.52)	4.8	3

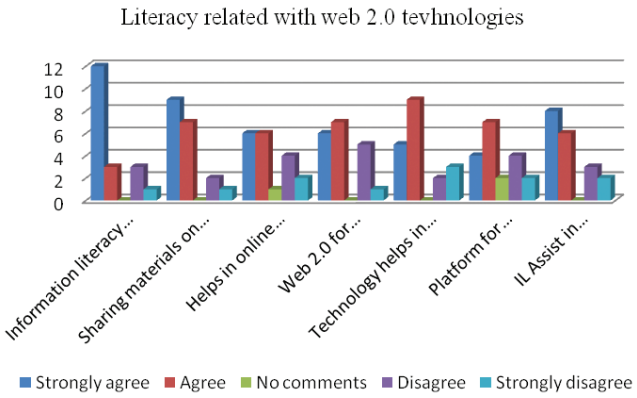

Figure 1. Graphical presentation of Table 4.

In response to a question on the major factors that inhibit the implementation of Web 2.0 technologies in information literacy programmes, just about half the respondents (10 out of 19) felt that the staff were not competent; however, 9 (out of 19) respondents did not agree with this. There was also an overwhelming opinion that lack of awareness of information literacy and utility of social media was a major factor in using Web 2.0 technologies (Table 5).

5.4 Hindrance of Technical Attitude

Attitude to new technologies could also be a barrier. To overcome attitudinal problems it has been suggested by many respondents that access to web 2.0 technologies free of cost students could improve the situation (Figure 2).

Table 5. Barrier for IL in using web 2.0 technologies

Sl. No.	Administration of institutions as a barrier for IL	Strongly agree	Agree	No comments	Disagree	Strongly disagree	WAM	Rank
1.	Staff are not competent with technologies	3 (15.78)	7 (36.84)	0	6 (31.57)	3 (15.78)	3.86	3
2.	Lack of awareness on IL & value of these media	6 (31.57)	9 (47.36)	0	3 (15.78)	1 (5.26)	4.2	1
3.	Lack of computer supply	3 (15.78)	2 (10.52)	2 (10.52)	8 (42.10)	4 (21.05)	3.26	6
4.	Lack of power supply and internet connection	3 (15.78)	5 (26.31)	0	7 (36.84)	4 (21.05)	3.33	5
5.	Lack of proper training for using web 2.0 media as an IL curriculum	1 (5.26)	4 (21.05)	0	11 (57.89)	3 (15.78)	3.06	7
6.	Problems of openness of institute information	2 (10.52)	5 (26.31)	3(15.78)	6 (31.57)	3 (15.78)	3.6	4
7.	Negative attitude among the authorities of these media and curriculum	3 (15.78)	6 (31.57)	2(10.52)	6 (31.57)	2 (10.52)	3.93	2

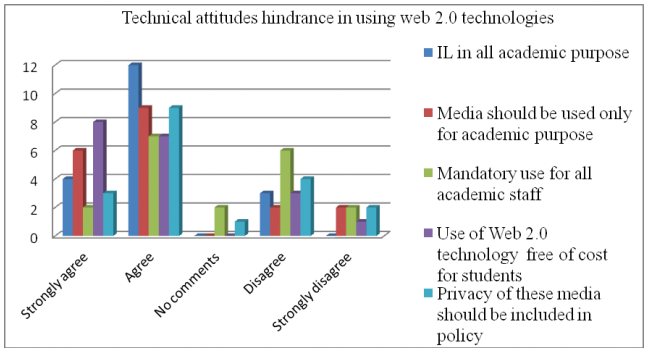

Figure 2. Technical attitudes hindrance in using of web 2.0 technologies.

5.5 Challenges Encountered for Information Literacy Instruction in Using Web 2.0 Technologies

The advent of new technologies and their proper utilization by students, necessitate information literacy programmes for faculty members. Realising its importance, the study sought to assess some of the issues in this regard.

Some of the major issues are shown in the Table 6. Lack of access to Internet appears to be the major challenge

Table 6. Information literacy instruction in using web 2.0 technologies

Sl. No.	Challenges encountered for IL in using web 2.0	Strongly agree (%)	Agree (%)	No comments (%)	Disagree (%)	Strongly disagree (%)
1.	Lack of fund for IL curriculum	7 (36.84)	3 (15.78)	2 (10.52)	5 (26.31)	2 (10.52)
2.	Training for IL	8 (42.10)	4 (21.05)	1 (5.26)	2 (10.52)	4 (21.05)
3.	Lack of web 2.0 skills for IL	3 (15.78)	5 (26.31)	1 (5.26)	6 (31.57)	4 (21.05)
4.	Lack of internet access	9 (47.36)	2 (10.52)	3 (15.78)	3 (15.78)	2 (10.52)
5.	Organisational policy for IL	3 (15.78)	4 (21.05)	6 (31.57)	2 (10.52)	4 (21.05)
6.	Unfriendly work environment	5 (26.31)	3 (15.78)	0	3 (15.78)	8 (42.105)

6. Conclusion

Information professionals and members of faculty in academic institutions must integrate information literacy instruction into curriculum as it helps students to with information. Engineering colleges in West Bengal should promote information literacy across the curriculum by providing web 2.0 technologies to students. Analysis also showed that the professionals in these engineering colleges have a positive attitude towards the implementation of IL in consequence web 2.0 technologies in libraries.

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