Utilization of Web 2.0 Tools for Learning

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Abstract

This paper presents the results of a survey that investigated the degree of access and level of comfort on the use of Web 2.0 tools for learning. Students were asked to describe their experiences on the use of these tools and their responses were content analyzed. Familiar tools utilized by students were wikis, blogs, media sharing, online collaborative documents and social networking sites. Survey results show that students found Web 2.0 comfortable to use for research, as well as with peers and teachers. They express that these tools facilitate online collaboration, support social interaction, provide easy access to information, encourage self-direction, and promote critical thinking and communication skills. The paper recommends that educators utilize these tools in teaching to improve the learning process. Schools also need to provide an environment to support teachers and students in accessing web tools.

Keywords: blogs, media sharing, online collaborative work, social networking sites

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Introduction

Web 2.0 is an interactive World Wide Web technology where users create, share, and edit each others' content to enhance creativity, information sharing, and collaboration among users. This involves the use of social networking sites and media sharing services to communicate and share their blogs, photos and videos with family and friends. Nowadays, students are attracted to the interactivity that these technology tools offer for the social aspects of easy communication and online expression of personal identities. Web 2.0 tools offer opportunities for learners to take control of their learning and facilitate collaborative ways of working, project creation, dialogue and knowledge sharing. With these capabilities, many teachers now are exploring the use of Web 2.0 technologies as a teaching tool. Teachers who use these tools provide capabilities to support communication, information literacy and encourage collaboration among students through the use of wikis, blogs, social networking and Google applications to facilitate learning.

Even though some educators recognize the educational value of Web 2.0 tools, there has been little research into the potentials, difficulties and other issues related to the implementation as perceived by the students. This research aims to address some of these gaps.

Objectives of the Study

This study aims to determine the level of comfortability with and the perception of the students towards the use of web 2.0 technologies. Specifically this study seeks to answer the following questions:

1. How do students access courses using web 2.0 technologies

   a) Location
   b) Frequency
   c) Length

2. How comfortable are the students with the use of web 2.0 technologies

3. How do students perceive the use of web 2.0 as a learning tool

Significance of the Study

The results of the study will help teachers to identify the benefits of and barriers against the use of Web 2.0 tools in the classroom.

Review of Related Literature

Web 2.0 is a term describing changing trends in the use of World Wide Web technology and web design that aim to enhance creativity, secure information sharing, collaboration and functionality of the web. Web 2.0 concepts have led to the development and evolution of web-based communities and hosted services, such as social-networking sites, video sharing sites, wikis, blogs, and folksonomies (Wikipedia, 2008).

A wiki page on Web 2.0 in Education defines Web 2.0 as a two-way medium, representing the next phase of usage of the internet, and a change that (quite reasonably) has people making a comparison to the advent of the printing press--in Web 2.0 almost anyone can become a publisher, or a "content producer." In Web 2.0, the creation of material or information on the Web is as much a part of our experience as the finding or reading of data has been in Web 1.0. And in Web 2.0 the content created by regular users can be much, and sometimes almost all, of the value from a website (http://web20ineducation.wikispaces.com/Intro).

The Web2.0 utilization in the enterprise can be called "the open innovation which utilizes the knowledge community of the opposite side of the network as important resources". Open innovation is to accelerate the technological innovation by the fusion of knowledge of office and outside company and, and it has the limit to accomplishing all problems in the talent of the office as a background (Taiici, 2006).

Clarke and Carnac (2008) found that over half of teachers surveyed believe that Web 2.0 resources should be used more often in the classroom. However, the majority of teachers questioned had never used

Web 2.0 applications in lessons, despite being frequent users of technology in their personal and professional lives. Their main concerns involved a lack of time to familiarise themselves with the technology and worries about managing the use of the internet in class. Their report recommended that teachers should be encouraged to help learners to develop more sophisticated use of Web 2.0 technology and to give them the skills to navigate this space.

Moreover, the report on the use Web 2.0 tools encourages participation and engagement, especially for those students who are timid; helps students continue classroom discussions outside of the classroom; encourages students who are so inclined to continue researching anytime, anywhere; and instills a sense of ownership and pride in students for the work they publish online which can lead to more attention to detail and a better quality of work. The report also found that one of the biggest obstacles in using Web 2.0 tools in the classroom was the time it takes teachers to incorporate these new tools into lesson plans. Although many teachers were familiar with the tools and use them in their personal lives, they are apprehensive about how to monitor Internet use in the classroom and the time needed to figure out how these tools should be used (Ash, 2008).

A review by Green and Hannon for Demos (2007) cited by Clarke (2008) suggests that digital technology is integrated into the daily lives of young people. The numbers of learners who are involved in what Green and Hannon (2007) deem to be 'groundbreaking activities' is small, which suggests that there is still a role for scaffolding activity by more able learning partners. Much participatory internet use is also seen within computer gaming communities, in particular, the online, multi-player, networked games through which geographically distributed users take part in social and/or collaborative activities.

Owen (2006) recommends that educational agenda are shifting to address ideas about how we can create personalized and collaborative knowledge spaces where learners can access people and knowledge in ways that encourage creative and reflective learning practices that extend beyond the boundaries of the school, and beyond the limits of formal education.

Sharples (2008) recommends that schools will need assistance to develop a policy of managed access, with appropriate tools for monitoring web use, and an ethics policy to establish the rights and responsibilities of

staff and students. Policy on bullying will need to be extended, if it is not already, to cover internet bullying and harassment.

CONCEPTUAL FRAMEWORK

Students utilizing internet tools in their classes → Utilization of Web 2.0 Tools Blog Wiki Social Networking → Level of Comfortability and Perception on Web 2.0 technologies
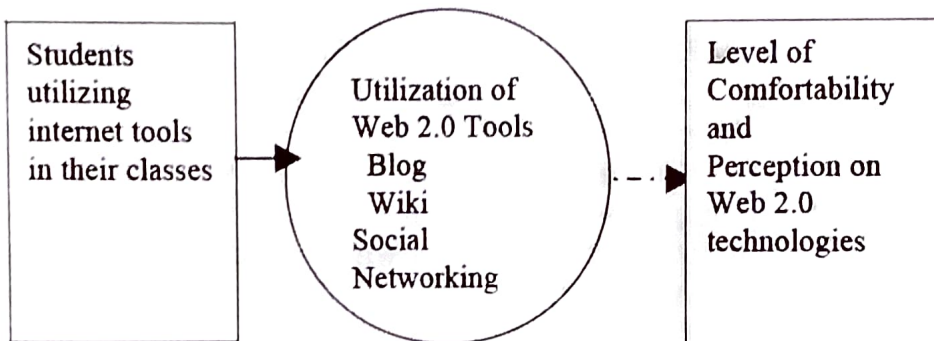
Figure 1. Research Conceptual Framework

The research paradigm used in this study is illustrated in Figure 1. It shows that the respondents of the study are the students who have utilized Web 2.0 tools in their classes. Using a questionnaire, the respondents were surveyed on their level of comfortability and their perception on the use of Web 2.0 tools in their learning content.

Research Methodology

Research Design

The study is a quantitative research design with qualitative support. Quantitative data were collected in terms of the degree of access and level of comfortability on the use of Web 2.0 tools for learning. The respondents also describe their experiences on the use of these tools and their responses were content analyzed.

Subjects of the Study

The respondents of the study were 100 College of Education students at MSU-Iligan Institute of Technology who used Web 2.0 as a tool in learning the subject they have enrolled in.

Data Gathering Procedure

A survey instrument was developed by the researcher and was face validated. The researcher identified classes which utilized Web 2.0 tools. Students were randomly selected as respondents of the study. The survey was then conducted to selected students who utilized Web 2.0 tools in their classroom. Data were tallied and responses on the perception on using the Web 2.0 tools were grouped and content analyzed. To interpret the average level of comfortability the following scale was used:

Average Rating	Description
3.25 - 4.00	Very Comfortable
2.50 - 3.24	Comfortable
1.75 - 2.49	Uncomfortable
1.00 – 1.74	Very Uncomfortable

Instrument Used

A researcher-made survey was used to determine the level of comfortability with and perception of the respondents about the use of Web 2.0 in the classroom.

Results and Discussion

This section presents the findings of the survey conducted among 100 students on their usage of web tools in learning the content of the subject they have enrolled in.

Table 1. Distribution of responses in terms of location, frequency and length of time on accessing course materials using web 2.0 tools

Locations	No of Responses	Frequency	No. of responses	Length	No. of Responses
Computer Laboratories	56	Daily	9	30 minutes	17
Campus Wifi Access	2	Weekly	89	1-2 hours	61
Internet Café	73	Monthly	2	3-4	13
Home	13			5-6	4

Table 1 shows that students access their course materials in the Internet Café, and computer laboratories. Most of these respondents accessed their course materials for two hours each week.

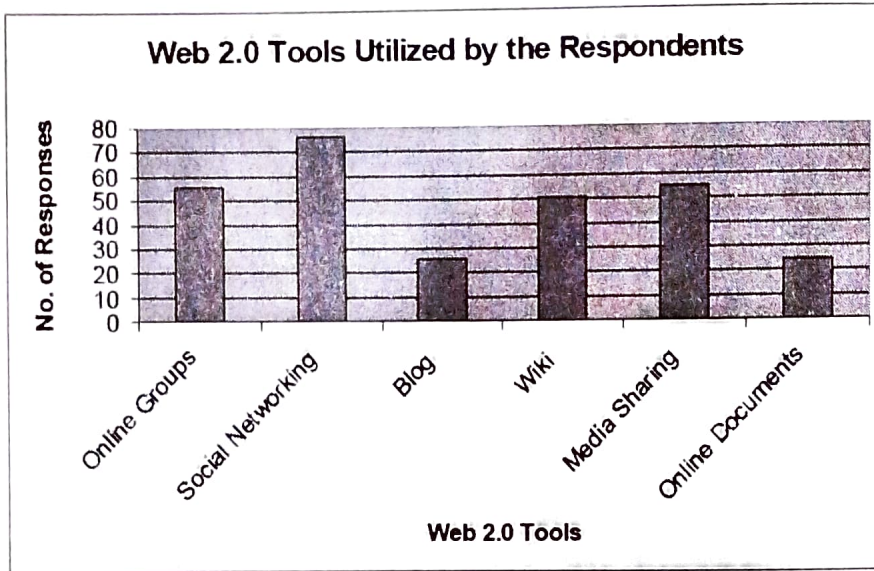**Web 2.0 Tools Utilized by the Respondents**

Figure 2. Bar Graph on common We 2.0 tools utilized in the classroom

As shown in Figure 2, 76 respondents utilize social networking sites and more than 50 of the respondents utilize Online Groups, Wiki and Media Sharing. Moreover, about 30 of them utilize blogs and Online Documents in their classroom.

Table 2. Level of Comfortability of the respondents on the use of Web 2.0 Tools for Learning

Web 2.0 tools	Average Level of Comfortability	Description
Social Networking	3.63	Very Comfortable
Blogs	3.12	Comfortable
Wiki	2.61	Comfortable
Online Collaborate Documents	2.25	Uncomfortable
Media Sharing	3.46	Very Comfortable
Social Bookmarking	2.09	Uncomfortable

Table 2 shows that the respondents were very comfortable with using Social Networking and Media Sharing.   Also the respondents articulated their comfortability with using Blogs and Wikis to do journalistic tasks and do collaborative writing, respectively. However, the respondents found Online Collaborative Documents and Social Bookmarking uncomfortable to use in their classrooms.

The respondents also gave their opinions about how Web 2.0 technologies helped them learn the content of their subjects. The following were the respondents' responses on how web 2.0 technologies support learning.

1) Facilitates online sharing and collaboration

S1-Web 2.0 made evaluation, document sharing and collaboration easier. S6-Web 2.0 really made learning easy. I gained easy access to information and other files needed in the subject. Moreover, I can post my researches, file outputs for the other people.

S27-even if we were not in the classroom, our teacher could still post and give us assignments or new things to learn which are really enjoyable for students like me. These are really convenient and effective in improving the learning process. What more could we ask for?

S50 – web 2.0 made the content of this course not boring. Though virtual, we were able to cover the entire content of the course. The collaboration with our peers was strengthened and our computer operation literacy was enhanced as well.

S69-The social networking site helps us share and get information regarding our previous lessons. We produced our own copies on other reports or their outputs through Google docs through a spread sheet. We could share our outputs and collaborate with our groupmates even if we were not in the same place.

S57-Through collaboration, we could submit our group projects on time. It could help give more information and ideas for our projects. It supports social interaction between students and teachers

S15 – this was helpful to me because I could easily view the assignment, requirement, pointers about our subject and I could connect with our teacher and have some discussion about the subject.

S33-the teacher could contact or still connect with the student through the web without meeting him in person.

S38 – it helped me because even if I missed the discussion in class, the teacher was going to post it in the site for us.

S85-Easy access on the next topic posted by the teacher and it was easy to communicate to teacher and my classmates. We don't go to lib because web 2.0 technologies explore and open many things.

S76-It was easy to post or submit our project and assignments. Web 2.0 could help us interact with our groupmates and teacher.

S65-web 2.0 helped and made easy for us to know what topics in the syllabus are to be discussed in order to complete all our requirements and web 2.0 also helped us to communicate with our teacher and classmates. Whatever topics I missed I easily recover by accessing the Web and reading these.

S52-web 2.0 technologies helped us by being informed without the teacher's presence at the time we needed the information, like emergency studies, etc.

S74-it helped me a lot in instantly saving a document that can be easily accessed by my classmates and my teacher. It developed social interaction because we can easily comment on every work made by our classmates and if it was on assignment commented on we become aware of the errors in our projects.

S43 – Web 2.0 is very helpful tool in the classroom interaction. It helped the student to present work through interaction with each other.

2) Easy access to information

S12 – helped a lot in learning content of this course because the activities intended for us to learn are easily accessed through this web 2.0

S44 – the web 2.0 technologies helped me to simply manipulate the materials already in it

S58 – it helped me with my requirements. It also helped me to research everything that are related to my subject.

S711 – by uploading our presentation and made it available to our class.

S36-through web 2.0 collaboration on the making of project online was developed by us. It made us do research and access the information which was made by our groupmates easily even if we are not in the same place.

S63 – it can sometimes help us because through the site, our teachers posted the schedule that we would be doing.

3) Promotes metacognition

S22-I was able to determine which part of my subjects needed improvement through the different feedback from my groupmates.

S4-it helped me to learn from my subjects, social networking like multiply allowed me to interact with my teacher and classmates and developed my critical thinking and communication skills whenever I gave comments.

S64-web 2.0 enabled us to interact with our groupmates simultaneously even when we were not in the same place. It enabled us to share information and even give comments. We could share our videos, audios,

recordings, photos and mostly it enabled us to evaluate resources shared by our classmates and groupmates.

S81-it helped me to learn the content of my subjects through blogging of which we would be able to interact with my classmates and teachers. We were also encouraged to give our insight or evaluate the output of my classmates

However, the respondents also expressed their difficulty on using Web 2.0 tools in their classroom. The obstacles in using these tools are:

4) Slow internet connectivity

SSS17-Some of my difficulties in using web 2.0 technologies in our class is the slow internet connection. We need more money.

S23 – My difficulties in using web 2.0 technology is the accessibility of the internet connection. Because here in school the internet connection is slow and some of the website needed cannot be opened and besides we only have 3 hours a week.

SSS3 – I can't access well because I only surf internet good for only for a week. And sometimes there are posted in the site in which I can read late.

S21-my only difficulty in using web web 2.0 technologies in my class is the access to internet connection. We are only given 3 hours a week in this class and for me its not enough because not all my classmates can view the materials.

5) Lack of financial resources on accessing web 2.0 technologies

Some of the responses are:

SSS24-technical error occurs which affects the time frame of the class. It is not quite economical because when we do our classwork outside through the net, we spend money and time

SSS18 – for me it's really difficult if you lack money. Well it's quite difficult at some point because you need to be always updated to the site so that you can relate and its quite expensive.

S12- although convenient to the users, it is still has its disadvantages, such as insufficient facilities.

6) Deficient skills on using web 2.0 technologies

Some responses are:

S25-sometimes it is very confusing on what tab you would click on.

S39-Actually, there are really difficulties in using web 2.0 technologies especially if you don't know the steps in posting your works. You can't log in on this website if you don't verify the email given by the operator. Its hard if you forget the password and the user name.

S44-the difficulties that we've encountered in using web 2.0 technologies is the conflict of time, the accessing process, and the lack of experience and knowledge in using this web 2.0 technologies

S7-I find difficulty in the web especially when the site is new to me. I always find it hard to use the tools and other features of website. Another is when the computer buffers to long.

7) Openness of web 2.0 tools

Some responses are:

S78 – Groupmates may just edit your page which sometimes you find unnecessary.

S13-although web 2.0 is accessible its not always suited to the activity presented in the class. We know that this tool can help interact with groupmates, classmates and teachers. There are activities that are only for the group and need not be shared.

S44-Web 2.0 technologies, however can be edited by someone who wants to make fun of your work.

Conclusion

Respondents access their course materials in the Internet Café, and computer laboratories. Furthermore, most of these respondents accessed their course materials weekly for two hours.

Most of the respondents were very comfortable with using Social Networking and Media Sharing. Also the respondents articulated their comfortability with using Blogs and Wikis to do journalistic tasks and do collaborative writing respectively. However, the respondents found Online Collaborative Documents and Social Bookmarking uncomfortable to use in their classrooms.

The respondents also conveyed how Web 2.0 technologies helped them learn the content of their subjects. The respondents identified that Web 2.0 tools facilitate online sharing and collaboration, support social interaction between students and teachers, made easy access to information, promote metacognition. However, the respondents also expressed their difficulty in using Web 2.0 tools in their classroom. The obstacles identified by the respondents are:

Slow internet connectivity
Limited access on facilities
Lack of financial resources to access web 2.0 technologies
Deficient skills in using web 2.0 technologies
Openness of web 2.0 tools

Furthermore, students expressed that these tools support communication, hone information literacy skills, and encourage collaboration among themselves.

Recommendations

The researcher recommends the following:

- Since most of the respondents identify the capabilities of web 2.0 tools to directly support, facilitate, enhance and improve the learning process, educators need to utilize these tools in teaching.

- Because some respondents find difficulties in using web 2.0 tools, it is recommended that Web 2.0 tools be included in the curriculum of basic computer science subject.

- Schools need to provide an environment that supports teachers and students on accessing web 2.0 tools.
- Further research will be done on the use of web 2.0 tools to support varied learning styles.

References

Ash, Katie (2008). *Web 2.0 Tools and Learning* from http://blogs.edweek.org/edweek/DigitalEducation/2008/10/new_res earch_on_web_20_tools.html, accessed on October 12, 2008

Clarke,Victoria and Francesca Rivett-Carnac (2008). *Benefits of Web 2.0 in the classroom at* http://news.becta.org.uk/display.cfm? resID=38417&page=1658&catID=1633 accessed on October 12, 2008

EL Howe, RM Kekwaletswe. *Using Web 2.0 as a tool to provide personalized learning support: the case of South African higher education* accessed at http://www.zaw3.co.za/index.php/ZAWWW/ 2009/paper/view/96 on June 3, 2009

Green, H., and Hannon, C. (2007). *Their Space: Education for a digital generation.* London: Demos. Available from http://www.demos.co.uk/publications/theirspace accessed on October 12, 2008.

Happ, Simone, Blogs, Wikis, Webcasts: *Utilization of State-of-the-Art Communication Instruments for Project Management* Accessed at http://www.centrestage.de/pdfs/060303_PMI_Paper_Blogs_Wikis.pdf on May 2009

Huang, WD. *Correlating College Students Learning Styles and How they Use Web 2.0 available* at www.editlib.org/d/30056/proceeding_30056.pdf on June 4, 2009

McCracken, Robert C. *Using RU's On-Line Tools and Web 2.0* accessed at rmccracke.asp.radford.edu/OurTurn09/Using%20RU's

Taiichi Inoue (2006). *Web 2.0 utilization force of the enterprise Business administration in the Web 2.0 age Open inovation which utilizes the knowledge community* from http://sciencelinks.jp/jeast/article/200702/000020070207A0018534.php accessed on October 11, 2009

On-LineTools.ppt
on May 2009

Owen Martin, Grant Lyndsay , Sayers Steve and Facer Keri (2006) *Social Software and Learning* available from http://docs.google.com/Doc?id=ddxjv7d5_7fhbfcbgm&hl=en accesed on October 12, 2008

Sharples, Mike , Graber Rebecca, Harrison Colin and Kit Logan (2008) *E-safey and Web 2.0* available at http://partners.becta.org.uk/index.php?section=rh&catcode=_re_rp_02&rid=14543 on June 9, 2009