Web 2.0 with Blended E-learning in Education to Engage Youths and Enhance Their Learning

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Abstract- Web 2.0 technologies combined with blended E-learning approaches, have increasingly become an exciting strategy used in education to equip students with new skill sets to effectively express themselves digitally and unravel a new learning experience to collaborate, socialize, engage and network with similar minds on cyberspace. This paper discusses the initiative of the author to interactively incorporate Web 2.0 tools and blended E-learning into the curriculum of a cross-disciplinary module “Effective Internet Research (EIR)” offered by Temasek Informatics & IT School at Temasek Polytechnic, Singapore. The author highlights this interactive, flexible and stimulating teaching approach using blogs, wikis, online chats and Internet discussion forums and lessons learnt to educate and engage youths in their learning, beyond what they can experience through traditional methods of classroom learning.

Keywords- Web 2.0; Education; Engage; Blended E-learning; Knowledge Sharing, Blogs; Online chats; Wikis; Internet Discussion Forums

INTRODUCTION
Web 2.0 technologies combined with blended E-learning approaches, have increasingly become an exciting strategy used in education to equip students with new skill sets to effectively express themselves digitally and unravel a new learning experience to collaborate, socialize, engage and network with similar minds on cyberspace. This paper discusses the initiative of the author to interactively incorporate Web 2.0 tools and blended E-learning into the curriculum of a cross-disciplinary module “Effective Internet Research (EIR)” offered by Temasek Informatics & IT School at Temasek Polytechnic, Singapore. The author highlights this interactive, flexible and stimulating teaching approach using blogs, wikis, online chats and Internet discussion forums and lessons learnt to educate and engage youths in their learning, beyond what they can experience through traditional methods of classroom learning.

WEB 2.0 TECHNOLOGIES
Web 2.0 has marked the evolution of the ‘read/write’ web characterized by the shift from passive content consumption to more active interaction, participation, creation and sharing of information and knowledge amongst Internet users. Web 2.0 encourages active communication and participation involving the use of internet activities and social softwares that allow Internet users to create, exchange, share and upload creative materials on cyberspace. It is fast gaining popularity amongst young Internet users especially in the use of social softwares and uploading of creative content.

Web 2.0 offers users an interactive use of the internet as a platform for simple, freely available services which empowers them to leverage social interactions to facilitate active communication, collaboration as well as the creation, remixing, exchanging and sharing of digital content. The proliferation of Web 2.0 services has brought about rapid growth of a critical mass of internet users and reliance on a large community of users.
to create and add value to content and data (Becta, 2008). Web 2.0 range of technologies and services are user-friendly and easily available which greatly reduces the barriers to production, distribution, sharing and exchanging of content amongst users. Blogs, wikis, media-sharing sites, social bookmarking, social networking sites and web ‘mash-ups’ are some examples of Web 2.0 services.

E-LEARNING AND BLENDED E-LEARNING

E-learning is the process of teaching and learning with the aid of computers and related technologies, especially through the use of internet. The rapid growth in the usage of computers in education has brought about the prevalence of E-learning in not only in primary and secondary educational institutions but also in institutes of higher and further education. Some courses can be fully offered via E-learning mode while in some other courses, E-learning is offered as an option or additional mode of learning. Blended E-learning refers to the combination of conventional teaching approaches and E-learning elements within a single course or programme. This can take the form of media blend and activity blend. Media blend involves the combination of different media resources such as audio, video, hard-copy reading resources with conventional face-to-face lectures and tutorials. Activity blend refers to the way in which activities are used together with the media blends. Both media and activity blends could be integrated within a course curriculum or they could work as stand-alone resources with narration by the tutor. Alternatively, media and activity blends could be provided for students to independently navigate for themselves, thus allowing them to create their own personalized blend which could be customized to their specific preferences for particular topics or specific formats (Littlejohn & Pegler, 2007).

E-learning, especially blended E-learning involving blends of media resources, activities and tools, has become the central mode of teaching and learning in the courses offered by the Temasek Informatics & IT School, Temasek Polytechnic, Singapore. Most courses are conducted using media blends of audio, video, print resources, E-learning activities with face-to-face classroom interactions. In addition to using these blends, some subject leaders have even ventured deeper into the exciting and diversified World Wide Web and 3D virtual worlds by offering their subjects on Second Life and capitalizing on the use of Web 2.0 tools, as described in the case study of the module EIR discussed in this paper.

WEB 2.0 AND KNOWLEDGE TRANSFER

Web 2.0 has many implications for knowledge transfer which can be explained using the general framework for knowledge work analysis developed by Efimova (2004). Efimova describes interesting linkages and interactions amongst Individual knowledge workers, Communities & Networks of people and other resources of knowledge work namely Ideas and the content elements and technologies which are used to represent and manipulate them (Efimova, 2004 as cited by Rollet et al., 2007). Some of these linkages and interactions are explained in the sections below on MSN online chats, blogs, wikis and discussion forums.

Social aspects of Web 2.0 such as ease of communication, co-ordination and online expression of personal identities have often attracted young people (Becta, 2008). This observation is supported by the author’s experience teaching a cross disciplinary module “Effective Internet Research (EIR)” using selected Web 2.0 tools and services with blended e-learning, to a batch of youngsters aged 17-20 years old at Temasek Polytechnic. This module is an introductory course to the use of Internet as a research tool. The youngsters who chose to study the EIR module were from different courses across the various Schools at Temasek Polytechnic namely applied science,
business, design, humanities & social sciences, engineering and information technology disciplines.

The author describes her experience implementing Web 2.0 with blended E-learning in teaching EIR which has been instrumental in helping to develop these youngsters’ cognitive ability to be confident in acquiring new methods of enquiry and new forms of literacy to effectively and conveniently navigate around the new knowledge space. She also documents her observation on how Web 2.0 has equipped her students with new skill sets necessary to effectively express themselves digitally and unravel a new learning experience as they discover new opportunities to collaborate, socialize, engage and network with similar minds on cyberspace, beyond what they can experience through traditional methods of face-to-face classroom learning via lectures, tutorials and practicals. Previous runs of the subject EIR were based on these traditional teaching methods and students’ feedback have not been favourable then. Students feedback that the teaching methods were passive, inflexible and lacked the opportunity to engage and provide them with a stimulating and independent learning environment.

In response to these students’ feedback, the author implemented a new teaching strategy by incorporating current developments into the subject curriculum in line with the dynamic and evolving nature of Internet. Selected Web 2.0 tools and social softwares like Blogs, Wikis, MSN online chats and discussion forums together with E-learning online games and discussions were incorporated into the subject curriculum to increase the level of interactivity in teaching and enhancing student learning. E-learning materials were used to add variety, enhance subject delivery of EIR so as to make it more meaningful and engaging.

These Web 2.0 tools and E-learning materials were blended with other engaging and interactive traditional face-to-face in-class activities such as oral presentations, role-playing, group discussions and evaluation of interesting websites that relate to young people which helped to add more vigour and fun to the subject curriculum.

At the end of the module, an online subject feedback was conducted to get students’ feedback (quantitative and qualitative) on the effectiveness of the subject delivery and teaching methods. This survey also aims to find out if the selected Web 2.0 tools and social softwares have been effective in making the learning of EIR interesting and meaningful for students.

The sections below describe the author’s teaching and students’ learning experiences using blended e-learning with Web 2.0 tools MSN online chats, blogs, wikis and discussion forums.

**Web 2.0 Application : Ice-breaking using MSN online chats**

MSN online chats were used during the first lesson as an ice-breaking in-class activity. Students had to work in groups to play an online game related to searching resources on Internet. Students exchanged MSN accounts and communicated their comments about the online game to fellow group mates. Throughout the duration of the module, MSN online chats were used as a convenient and flexible communication tool for students to discuss on matters related to this module, anytime and anywhere. The author also set up a MSN account for the EIR module to communicate with students and answer their queries related to the module, beyond the scheduled in-class curriculum time. Students feedback that they had fun using MSN online chats to talk to their new friends who were mainly from different courses across Temasek Polytechnic. They also feedback that it is convenient for them to get their queries answered quickly via MSN by the tutor, especially beyond the time-tabled curriculum time.
Web 2.0 Application: Unleashing the joy and fun of learning using Blogs

Web 2.0 offers endless opportunity for enjoyable and meaningful learning of the EIR module. Blogs have been used as a creative tool for students to write their learning journal as they reflect on the process of learning different aspects of their study of EIR module. These include their understanding of concepts and applications of Internet research and ethics, evaluation of websites and search facilities.

Students love writing blogs as they were empowered to freely express and share their ideas and views about their research findings and publish it within a few minutes, without even having to learn about html codes and creating web pages. Students were also given the opportunity to express their unique learning experiences of the subject EIR through fun and interesting E-learning activities “My E-shopping Spree” and “My Virtual Dream Holiday” which were linked to the learning objectives of the subject.

The subject leader also encourages students to add positive comments to their fellow classmates’ blog entries. This spirit of sharing and learning on cyberspace has added more enjoyment and motivation to learning EIR as these students like to receive favourable comments from their classmates and tutor about their blog entries as a way of affirming the good work that they had done.

Journal writing has been noted to be a formal tool for developing reflective thinking and helps improve students’ learning across disciplines (Langer, 2002 as cited by Allam, 2008). By requiring students to write their reflective journal on blogs and have them graded, the author had added the ‘trendy’ and ‘cool’ effects of journal writing which further motivate these batch of young learners to excel in this module as evident from their high attention span in class and interesting blog reflections about their EIR learning journey. Even the most timid of students were able to express himself/herself well via blogs.

The highly reflective and analytical blog entries creatively done up using carefully designed blog skins, had demonstrated the students’ ability to deftly comprehend concepts taught, analyze and explain their research process and findings. This reflected their pride to produce good quality work using higher order thinking skills which went beyond expected requirements. At the end of the module, students were required to deliver a graded class presentation of their blogs and share with their classmates their research findings and experience. The blog presentations sparked off further beneficial discussions and peer learning and knowledge sharing amongst the whole class and provided an enjoyable and meaningful finale to the EIR module.

Web 2.0 Application: Networking Beyond the Classrooms via Discussion Forums

By participating in the Internet discussion forums, students were able to learn, exchange and share knowledge about their research interests with others with similar interests. Students reflected that they never knew they could learn a lot more and find answers to their research questions by asking the right questions and responding to the discussion threads. For example, students researching on eating disorders, alcoholism and drugs abuse amongst youths reflected that they marveled at the opportunity to learn from the direct knowledge-sharing of youths who shared about their experiences being anorexic, alcoholic and abusing drugs. Other students researching on Aids & HIV reflected how engaging in discussion forums with aids victims had transformed the way they think and react towards them and help to empathize and understand them better. Those students researching on cancer reflected how they were touched by the knowledge sharing of the heart-wrenching stories by cancer victims and their families.
The knowledge sharing of the discussion forum online experiences during the class presentations had led to more knowledge pursuits as other students became more interested to find out more about the research topics shared by their fellow classmates.

It is interesting to note students’ extending their network effects from discussion forums to other social networking sites encouraging them to establish and maintain more online social relationships using different Web 2.0 technological platforms. Network effects which were originally limited to communication within the realm of discussion forums are now increasingly making in-roads into contents residing in various other systems (Rollett et.al., 2007).

**Web 2.0 Application : Collaborative Writing Using Wiki**

Within each class, students from the different courses in the Polytechnic had to come together to work on a graded E-learning class group activity to contribute their research findings on topics related to Internet & Ethics. Wikis was used for this purpose as it allowed all students in each class to collaborate virtually by researching on the topic on Internet & Ethics and share the results with other students.

Students reflected that Wiki helped improved communication skills amongst classmates, increase teamwork and provided flexibility and convenience in learning (Parker & Chao, 2007). Students were amazed that they were able to conveniently complete the Wiki group assignment over a weekend without even having to attend class nor having to meet up with their classmates. They also appreciated the Wiki experience in giving them the opportunity to bond and team up to work together as a class even though they come from different courses across the Polytechnic.

However, some students admitted that at first they were not comfortable to have their fellow classmates edit their writing on the Wiki group assignment, but soon learn to live up to the Wiki community spirit of collaborative writing when they realized that they too were free to edit their other fellow classmates’ contribution to the class Wiki.

Indeed students have experienced the powerful learning experience of using Wiki via the rapid feedback they can provide to fellow classmates on their contributions towards the class wiki while having other fellow classmates edit their work in an ongoing collaborative writing experience (Klobas, 2006).

**Web 2.0 Evaluation : Online Subject Feedback Results**

At the end of the module, an online subject feedback was conducted to get students’ feedback on the effectiveness of the subject delivery and teaching methods. This survey also aims to find out if the selected Web 2.0 tools and social softwares have been effective in making the learning of EIR interesting and meaningful for students. A total of 103 students participated in this survey. Below are the quantitative results of this survey:

94.1% students strongly agreed/agreed that overall they are satisfied with the EIR module. 97.0% of students strongly agreed/agreed that they had learnt a lot in this module. 92.3% of students strongly agreed/agreed that EIR is interesting and provides opportunity to stimulate their thinking.

92.2% of the students strongly agreed/agreed that the Blogging experience is interesting and meaningful. 85.4% of the students strongly agreed/agreed that the Wiki experience is interesting & meaningful. 87.4% of students strongly agreed/agreed that the experience of participating in Internet newsgroups/discussion forums stimulating and useful for their research topics. 97% of the students strongly agreed/agreed that EIR has helped them in...
searching and evaluating Internet resources more effectively.

89.3% of the students strongly agreed/agreed that the E-learning games and activities were useful and helped me learn EIR conveniently and independently. 92.3% of the students strongly agreed/agreed that the E-lectures were convenient and helped me learn EIR independently.

In this subject feedback, students also provided the following qualitative feedback:

“By learning to create my own blog, EIR allows me to change my view about blogs. Initially, I thought that blogs are meant to be personal spaces where the owners rant about their everyday life and happenings, but now I realized that it can also be used to spread information around and spark up discussions.”

“I really enjoy this module, as it really widens my knowledge on how to gather my information accurately and better. It is really fun and interesting! It is not boring and it pushes me to find out and discover more knowledge in my area of research.”

“Maintaining a portfolio in the form of a blog is somewhat modernized and fun as well. I realized that in EIR, you need to have discipline in yourself to complete the work”

“EIR is a really interesting module. I have learnt a lot during this semester in EIR, such as the effective way of using search engines, how to evaluate a website and Blogging! EIR rocks!!”

“EIR is really a fun subject! I look forward to all the classes due to the jovial environment! I not only enjoy myself but I have also learnt a lot about internet and the tools which I have never used before.”

“EIR is an interesting subject that helps enrich my understanding on my internet skills. It has helped me academically and personally where I get to also understand myself better.”

“EIR is very interesting, fun and enriching subject. I really learnt a lot in this module. It teaches me a lot of things especially how to blog. Really glad that I choose EIR.”

Students’ positive feedback mentioned in the section above indicate their high level of motivation in learning this module which has boosted their confidence level and sense of empowerment. Students found the new teaching strategy useful and interesting as they were able to reflect on their EIR journey via their individual EIR blogs. They were also given the chance to virtually collaborate on a group report through the wiki class group assignment. By participating in the Internet discussion forums, students were able to learn, exchange and share information about their research interests with others with similar interests.

**CHALLENGES**

The implementation of E-learning in higher educational context does provide various challenges for educators and administrators alike. Novice educators face the challenge of using the technologies necessary to implement E-learning while experienced educators find it difficult to adapt to the use of new technologies especially when they have been using the same “good-old and familiar” teaching methods for many years. They also find it challenging to invest time and effort to enable them to stay abreast of the rapid development in the fast-moving field like IT and Internet. Educators face the challenge of designing and developing effective blends of online and face-to-face interactions which are often very time-consuming to develop. They also face the challenge of creating, updating and maintaining E-learning courses that are sustainable and reusable.

Based on the EIR experience, tutors and students face the challenge of having to learn new Web 2.0 tools especially Wikis which
have not been widely used yet. The subject team overcame this challenge by allocating some time in the face-to-face classroom sessions for students to learn how to use these tools. Another challenge faced is related to the grading and assessment of group Wikis. The subject team overcame this challenge by getting students to talk about the extent of their contributions towards the group wikis during the final portfolio presentations at the end of the module.

The subject leader also faced the challenge of having to invest a lot of time and effort in designing and developing effective E-learning activities which have to be deftly blended with relevant media resources and suitably-selected interactive Web 2.0 tools with sound pedagogy principles. Responding to students’ feedback, the subject leader took on this challenge as she realized the need to engage her students using the new Web learning landscape and changing the traditional classroom environment which opens up more opportunities for collaborative work and enabling students to personalize and take charge of their own learning by blending E-learning with face-to-face interactions. This echoes the ‘YouNiversity’ concept in higher education described by Jenkins (2007), suggesting the evolution of an intellectual and dynamic network involving the interaction of students with professors, industry and the community. This encompasses a change in the traditional classroom learning ecology and includes the collaborative broader perspectives that often occur within a learning environment which blends online interactions with traditional face-to-face learning experiences (Jenkins, 2007 as cited by Duffy, 2008).

However, although Web 2.0 applications with blended E-learning have opened up a wide range of possibilities for educational institutions, educators need also be mindful of the challenges in transmitting into their existing institutional contexts, the essential attributes of Web 2.0 of trust, openness, voluntariness and self-organization (Rollett et.al., 2007).

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REFERENCES


