Engaging the Engaged

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Abstract: This paper aimed to explore, describe and understand polytechnic students' learning experiences with Web 2.0 applications and the problems, difficulties and the constraints that the students experienced with the use of Web 2.0 applications for learning. From a qualitative method in exploration of the students' experiences and opinions with use of Web 2.0 for learning, this study hoped to gain a more in depth understanding of the students' learning experiences with Web 2.0 applications. The focus of this paper was on the systematic exploration of Web 2.0 applications like Blogs, YouTube, Wikis and Facebook as illustrative and typical examples of technologies. The data shows that the polytechnic students enjoyed and are engaged with using Web 2.0 applications but this does not mean that students are engaged with their learning through these technologies! The findings of this study would be useful to policy makers and educationists as it would provide insights into how the use of technology (Web 2.0) as a learning technology could be used to shape the education of a digital generation in this globalized millennium.

Keywords: Social-Constructivist Learning, Students' learning experiences, Engaged learning, Engagement with technologies and Web 2.0 learning technologies.

1. Introduction

In this discussion of "Engaging The Engaged", it refers to the polytechnic students who are engaged with Web 2.0 applications. At school, the availability and use of educational technologies have led to unprecedented access to vast repositories of information, with ease of access to high quality teaching and learning resources instead of asking, "How can this technology be used?" a more appropriate question should be "How should the learning process be improved? How might the use of technology enable such improvements?" As alluded to above, learning technologies will continue to assume an increasingly important component of pedagogy that facilitates students' meaningful learning in Singapore. The questions for this paper are:
I. What are students' learning experiences and opinions with Web 2.0 applications for learning?
II. What are the problems, difficulties and constraints students faced with Web 2.0 applications for learning?

2. Literature Review

This literature review lends itself to my thought processes of seeking an analytical understanding of how the adoption of Web 2.0 applications to better understand students' learning experiences with peers, teachers and the learning community. According to Ong (2003), it was found that, with a polytechnic e-learning initiative for an engineering module, students preferred e-learning to traditional lecture style because the e-learning programme was free from mistakes, allowing students greater control and interactivity

with their own learning and information via e-learning which was up to date, clear and easy to access (Ong, 2003). As the use of technologies fascinates and attracts the students, it makes sense for teachers to harness this interest and fascination for the educational benefits by adopting these emerging technologies. To meet the challenges and opportunities of the 21st century IT based information age and to reap the benefits of the opportunities presented by globalization, the new system of education and learning has to support the teachers and students to break the boundaries of time and space (Smith, 2002). With the use of the technology in their learning through active social collaboration, students are in fact creating, sharing, discussing and in communicating with one another for information and knowledge with another (Maloney, 2007). This social collaboration of creating, sharing, discussing of knowledge in communication (Web 2.0) with one another can facilitate the teacher and student interaction or student and student interactions varying from learning to teaching between the learner and the facilitator or among other students (a vital facet of social constructivist learning) by leveraging on these technologies (Smith, 2002).

2.1 Web 2.0 Applications as Learning Technologies

The term Web 2.0 was originally coined by DiNucci (1999) and later popularized by Dougherty and O'Reilly (O'Reilly, 2005) to describe how the Web was changed from a read-only web to a read-and-write web that facilitates participatory, collaborative, and distributed practices. The term Web 2.0, according to O'Reilly (2005), emphasizes participation and encourages social networking where users are involved in contributing and commenting on the information instead of passively reading or receiving information (O'Reilly, 2005). Web 2.0 applications provide online users with interactive services and control over their own data and information (Maloney, 2007). Today's youths use Web 2.0 applications such as Wikis, social bookmarking, and blogs on a regular basis (Lenhart and Madden, 2007). Web 2 Wikis (e.g. Wikipedia), blogs (e.g. Blogger), social bookmarking (e.g. del.icio.us), Internet telephony (e.g. Skype), social networking (e.g. Club Penguin, Facebook, MySpace), and video sharing sites (e.g. YouTube, U-Stream) are Web 2.0 phenomena which are transforming traditional ideas about how students interact online and how content is created, shared, and distributed. However, what must be considered here though is not the shifting ground in relation to definitional aspects of Web 2.0 but how the term is defined for the purposes of this exploration of its use within education and pedagogic possibilities?

Several examples of colleges and schools leveraging on learning technologies especially with Web 2.0 applications for students to learn through the collaborative process have surfaced. For example, a Chemistry Language course at Brown University has used Wikis to foster student interaction by sharing questions and recording uses of the terminology (Yan, 2008). At Emerson College, Yan (2008) cites an example of Blogs used for publishing and discussing student work in a "Digital Culture" learning community. According to Educause Learning Initiative (2006) survey, YouTube can be used to create a learning community where each and every one can contribute and the values lies with the creation of the content and the learners who would learn from the content discovered and shared (ELI, 2006). Face Book also shares many of the qualities of a good 'official' education technology in its reflective element, allowing for peer feedback and a fit for the social context of learning (Mason, 2006). The conversational and collaborative characteristics of Face book are also "collaborative and encourage active participatory role for users" (Maloney 2007, p.26). With the students actively using the technologies within the participatory of creation and sharing of knowledge, what have been the learning

experiences of the polytechnic students in Singapore with using these Web 2.0 applications?

2.2 Profile of the students

After four or five years of secondary education, the starting age of students studying at the polytechnic is between 17 - 18 year olds. Why the choice of polytechnic students as the participants for this study? At this particular polytechnic, the first-year business students exchange email addresses for communication between lecturers and fellow classmates regarding assignments and school matters. The majority of the year one business students make use of the information on the Web for discussion and as additional knowledge for their group assignments and projects (www.nyp.edu.sg). Additionally, the polytechnic students have been educated in the education system since primary and secondary schools with IT in schools and have been educated through the government policies of Singapore's Masterplans 1, 2 and 3. The rationale for the selection criterion of the polytechnic students' learning experiences is that these participants will have the level of experience and engagement with Web 2.0 that would enable them to describe their experiences and attitudes to inform the purpose of this paper. So far, there has not been much research and empirical study on the polytechnic students' experiences with Web 2.0 with classmates, peers and the knowledge community. It might be said that the wired lifestyles of the student generation in Singapore should ensure that changes to the classroom setting will not be fundamentally one way or a one size fits all approach, but is the access to vast repositories of information helping to instil in our students in applying higher order thinking skills with the ubiquitous knowledge available? Are the students using the technologies to learn, to assimilate and to collaborate with others for knowledge and information within a constructivist paradigm?

3. Theoretical Framework

3.1 Social Constructivist Theory

The constructivist individualized school of thought emphasizes qualitative change in knowledge acquisition by individuals due to his or her interaction with the world whilst the social cultural perspective emphasizes towards social cultural approach of social participation, the setting of activities, and the knowledge acquisition over time between the social communities and individuals (Vygotsky, 1978). Social constructivist theory focuses on students being involved in learning as an explorative and social process and social learning tool, such as Web 2.0, is often used synonymously with social learning technology which is specifically focused on collaboration, sharing and user personalization. McLoughlin and Lee (2007) list some of the key educational affordances of social learning technologies like Web 2.0 as connectivity and social rapport, collaborative information discovery and sharing, content creation and knowledge and information aggregation and content modification (p. 667).

Central to Vygotsky's (1978) theory of cognitive development is the notion of a "zone of proximal development" or ZPD in which is the zone of the "distance between the actual development level of a child as determined by independent problem solving and the level of potential development as determined through problem-solving under guidance or in collaboration with capable peers". The first level of actual development is the level that the learner or student has already reached and the level at which the student is capable of solving problems independently refers to the level of the zone of proximal development.

This zone of proximal development is the level that the student is capable of reaching under the guidance of the teachers or in collaboration with peers. The student is capable of solving problems and understanding at this level that they are not capable of solving or understanding at their level of actual development. The concept of guidance or scaffolding of the teachers and more capable peers describes the process of Zone of Proximal Development. The teaching and learning activities via Web 2.0 can be such that the teacher has the responsibility to provide guidance, but the wider learning group with the more capable peers also play an equally vital role. In order to be effective in guidance and scaffolding, teachers do need to be sufficiently expert in their domain to judge individual learning needs, and be sufficiently skilled to adjust, guide continuously switching between the novice and experts perspectives. Web 2.0 allows students to be actively producing, collaborating and interacting with peers and the learning community as well as the outside knowledge community who are connected via the network. Web 2.0 supports active and social learning, providing opportunities and venues for student publication and opportunities to provide effective and efficient feedback to students. It also allows for scaffolding of learning in the student's Zone of Proximal Development or ZPD (Vygotsky, 1978).

3.2 Social Constructivist Theory and Guidance

Students require support or guidance from the teachers as some tasks may be beyond their current abilities (Vygotsky, 1978). The teachers' guidance or scaffolding is very crucial and vital in engaging the students (the engaged) in their learning with technologies. As educators, we can conceptualize pedagogy to guide students who are also co-creators of knowledge and information with one another in an authentic environment with group dynamics facilitated by Web 2.0 applications to experience effective and meaningful learning preparing them as the future workforce of the 21st century!

4. Methodology

This paper is an in-depth discussion of qualitative data (informal semi-structured students' interviews) collected in relation to the questions for the conduct of this study. I have chosen a qualitative method to find out the details of the students' experiences and opinions and the issues and constraints that students experienced with use of Web 2.0 for learning. I subscribe to Merriam's (1998) view that "research focussed on discovery, insight and understanding from the perspectives of those being studied offers the greatest promise of making significant contributions to the knowledge base and practice of education" (p. 3). Such a paradigm is thus associated with meaning-making from rich sets of data, and necessarily qualitative in nature. A qualitative research method, according to Merriam (1998), is exploratory, inductive with emphasis on processes instead of the end result and that there will be no predetermined hypotheses, and "what one does is to observe, intuit, sense what is occurring in a natural setting" (Merriam, 1998, p 65). The participants for my research is from a particular polytechnic in Singapore from a particular faculty to have consistent variables and their feedback of the data to allow for generalizability of the study of polytechnic students' experiences and opinions with Web 2.0 for learning in Singapore. The method is the qualitative one-on-one informal semi-structured interviews with a selective few students from the School of Business Faculty, who has keenly participated in the interviews to share their learning experiences and difficulties and issues with Web 2.0 applications for learning. The following data with the

students' names are all provided as pseudonyms and not their actual name as a respect for students' privacy.

5. Results and Discussion

According to the data, the polytechnic students liked using Web 2.0 applications and what is clear is that the youths are engaged with Web 2.0 applications! They liked the networking and the interacting with peers via Web 2.0 applications. They cited the problems of distractions with using Web 2.0 that would take away learning time. Let me bring together the findings by presenting a set of dimensions, and shifts along learning that describe the youths of today as "The Engaged".

5.1 The "ENGAGED"

The "Engaged" refers to the polytechnic students who enjoyed, liked and are engaged with Web 2.0 applications and is identified as the following:
E – **Engaged** with Web 2.0 & all things interactive e.g. Blogs, YouTube & Facebook
N – **Networking** with peers, classmates, friends and others with Web 2.0
G – **Group** dynamics as the preferred mode of working together using Web 2.0
A – **Authentic** context and real-life situations with using Web 2.0 for learning
G – **Guidance** from teachers as facilitator towards their learning with Web 2.0
E – **Empowering** students' learning with Web 2.0 that is "E-powering"
D – **Distractions** that took away students' learning time with using Web 2.0 for learning

There are plenty of information and resources and it is easy to obtain information through Web 2.0 applications (Evan.m4a, 04:03sec)
Wiki is a good tool as an elementary and background understanding of definition of terms and Wiki is one of the most effective Web 2.0 tools for learning (Paul.m4a, 28:21sec)

5.1.1 *"Networking"*

Started his Facebook account due to "friends' request to join them in their network of friends online to discuss about interesting things together (Zach.m4a, 10:49sec)
Would use Facebook for learning every day and he would like to add people and friends in order to increase his network of friends (John3.m4a, 16:00sec)

5.1.2 *"Group"*

My group did very well together sharing and discussing about our projects using the YouTube videos (Paul2.m4a, 35:07sec)
All students liked the informal and casual relationship on Facebook which would make learning with a group of friends more fun and interactive (Evan3.m4a, 34:06sec)

5.1.3 *"Authentic"*

Sometimes learn "life's lessons through the YouTube videos (Darren2.m4a, 17:29sec)
Videos on how to do certain things and on how to prepare the graduating students to prepare and how to behave professionally for a job interview (John2.m4a, 15:31sec)
Students could watch the demonstration or a showcase of a particular practical "hands-on" subject or module (Evan2.m4a, 28:11sec)

5.1.4 *"Guidance"*

When tutors suggest and recommend the websites and links on Facebook for learning, then it is a good learning tool for students (Darren3.m4a, 19:11sec)
It would need a lot of verification by tutors and professionals and proper research done by students to ensure that these terms and definitions are accurate and credible on the validity and credibility of information from Wiki (Evan2.m4a, 20:12sec)
To obtain serious and formal information, it is better to learn from the tutor/lecturer when in doubt (Paul2.m4a, 39:27sec)

As a result, teachers' guidance in the socially constructivist learning environment within a technically inclined environment is still vital in this discussion of facilitating students' engagement with Web 2.0 applications for learning.

5.1.5 *"Empowering"*

It is empowering to search for and look for information that is more than what is given in the text (John3.m4a, 16:19sec)
Learning could take place at anytime and anyplace on Facebook (Evan3.m4a, 35:03sec)

5.1.6 "Distractions"

Distractions such as games and videos on both Facebook and YouTube will take away most of the time meant for doing research and for reading of information and knowledge (Paul2.m4a, 39:58sec)
Usually get "invited" to play the games on Facebook so, this distraction could actually take away learning time (John4.m4a, 21:04sec).

6. Conclusions and Recommendations

According to the data, students' are engaged with Web 2.0 applications for information and knowledge beyond the boundaries of the classroom. They enjoyed and liked the sharing, discussing and collaborative learning with one another via Web 2.0 applications. As educators, we should encourage the use of Web 2.0 applications for learning. We can aim to leverage the use of these technologies to cater to students' collaborative, meaningful and engagement with technologies with one another to facilitate engaged learning for the students. To connect with students, teachers or educators would need to interact with students to provide an environment where learning can take place with activities that is engaging and meaningful to the students within an authentic learning context with Web 2.0 applications. Networking with peers, classmates and teachers via Web 2.0 is not just for social reasons but it also can be used to encourage the informal sharing and discussing of knowledge. This thus, shows the potential of read/write Web 2.0 applications, to augment 'conventional' interactions between students and their network of peers, classmates, and teachers for sharing of knowledge with one another. From the discussion of the "Engaged", "Networking", "Group", "Authentic", "Guidance", "Empowering" and "Distractions" there is the potential with use of Web 2.0 for students to learn with peers, classmates and teachers. I would suggest the following:

1. Pre-engagement with the student and the curriculum. The teachers' role as a facilitator via Web 2.0 is to ensure that the goal and the evaluation criteria of the inquiry tasks are clear and shared by all students. Teachers can assist and guide students in

understanding the goals and evaluation criteria of the curriculum task at hand before students start their information search and in their creating, communicating and sharing of information with others.

2. Giving feedback and assisting in internalization. Teachers to give positive feedback on the accomplishment of the whole learning process. An evaluation session to help the students to reflect on their research strategies after completion of task will lead to students' improvement of their self-awareness and self-evaluation in online inquiry (Rogers & Swan, 2004). Since students liked to navigate and search for information and knowledge via Web 2.0 applications.
3. Actively diagnosing the needs of the students and providing immediate assistance. Teachers can guide students in pursing their goals in learning so that students will not be distracted by reminding the students of the goals and to keep the students back on track from the distractions.

As the polytechnic students still think highly of teachers as the formal source of information, knowledge and guidance, it is crucial that the teachers take note of this knowledge and to assist students by scaffolding or guiding students' learning via Web 2.0 applications. Guidance from the teachers in this discussion is similar to ZPD through which student can enhance their learning with the help of a supporting expertise and experience with peers and the knowledge community (Vygotsky, 1978). To the students, they felt they were empowered with the power (of navigation) to be able to access and assess knowledge via Web 2.0 for learning that is beyond the text and the boundaries of the classroom. We need to encourage and empower these youths' digital literacy and their hunger for knowledge beyond the text and the classroom. However, as educators, we should also be cautious regarding claims regarding the "digital generation" of today and their internet-related expertise. Students may lack the learning strategies to work with the use of Web 2.0 technologies for learning although they are engaged with Web 2.0 applications.

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