

Borderless eLearning: HITS Model for Web 2.0

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ABSTRACT

Use of eLearning is continuously expanding with the influences of Web 2.0 technologies. The objective of this paper is to detail the ways to successfully organize excellent eLearning projects based on existing Web 2.0 technologies. This paper proposes HITS model for borderless eLearning based on four main aspects- Human, Instruction, Technology and Social. The major argument for this model is that the barriers of eLearning can be removed by proper usage of educational technology components available in Web 2.0. The proposed HITS model for borderless eLearning can play a significant role in improving effectiveness of eLearning projects. The main theme of HITS model is to explain its usage with Web 2.0 for enhancing borderless eLearning.

Keywords: eLearning, Educational Technology, HITS, Human, Instruction, Technology, Social, Net works, Social networking, Web 2.0

“Universities not yet on Education 2.0 will miss out when Education 3.0 hits”

*Andrew Lim, Sun’s APAC director
(Sambandaraksa, 2008)*

1) INTRODUCTION

The main objective of this paper is to propose a borderless eLearning implementation model based on Web 2.0 technologies. The major question needs to be investigated as to how to break down eLearning barriers by proper usage of educational technology components available in Web 2.0. In theory, many eLearning advantages has been recorded however, in practice many eLearning barriers has also been reported. Thus, it is crucial to

form a model to setup a guideline for eLearning implementation.

The Web 2.0 phenomenon has increased the eLearning efficiencies. Web 2.0 can heavily influence eLearning as it is all about sharing, collaboration, services, speed, multitasking, multimedia, community, mobility, open content, open technology, open source and contributing information to the Net (Sambandaraksa, 2008). Earlier versions of Web 1.0 represented a passive style of gathering knowledge. In another words, it used passive one-way communication rather than the interactive ways of communication.

The structure of this current paper is based on research questions, relevant literature review research methodology and research result. The research question of this paper is ‘How do Web 2.0 based solutions reduce eLearning barriers?’ The literature review will focus on eLearning and Web 2.0 including Web 2.0 concepts for education and barriers for eLearning. The research result will detail about how Web 2.0 components should be shaped for borderless eLearning based on the proposed model- Human, Instruction, Technology and Social (HITS).

2) ELEARNING AND WEB 2.0

This section has been organized to investigate an answer to “How do Web 2.0 potentials reduce eLearning barriers?” The comprehensive information for this discussion is contained in the first sub-section which details the framework of Web 2.0 for education. The second sub-section contains information about potential barriers for eLearning.

2.1 Web 2.0 concepts for education

Web 2.0 has been marked as an important digital tools for institutions in modern society (Virkus, 2008). Many reasons for these are: the potentials of Web 2.0 that advocate constructivist approaches to education including the support for positive socializing based on learning perspectives. The Web 2.0 technologies can influence the way in which students learn, access information and communicate with each other. The system based on Web 2.0 is open for effective information retrieval (Mohan, Choi, & Min, 2008; Virkus, 2008). This has resulted in a growing number of eLearning 2.0 applications. Web 2.0 is providing the power of next-generation to improve students' communication in a virtual learning environment.

The ubiquitous existent Web 2.0 for education provides new functions and applications that can be used for online learning. From huge numbers of Web 2.0 components for education, it is possible to put them into at least two core formats based on major services: collaborative knowledge and collective intelligence (Kesim & Agaoglu, 2007; The New Media Consortium & the EDUCAUSE Learning Initiative, 2008).

Collaborative Knowledge: This is one of the major shifts which have transformed the Web 1.0 to become Web 2.0. The domain of Web 1.0 is "read only web" but Web 2.0 is "read-write web" which encourage users to add, share, rate, and adjust information. The online contents come from co-configuration, co-creation and co-design of a particular learning space (Wikipedia, 2008). While in the past only one lecturer provided the content but today many lecturers provide content for a larger population. However, it is crucial to state that information is not equal to knowledge (Hogg, 2008). Examples of this kind of wider collaboration are reflected in the wikis, wikipedia, pbwiki, and wikispace.

Collective Intelligence: In the sense of education and media, this is one of indispensable concepts which present a new creative form of communication that transfers 'Directories or Taxonomy' to be 'Tagging or Folksonomy'. Examples of this group include delico.us, a social

book marking and Google Reader.

In order to demonstrate the impact of Web 2.0 for education, the applications for enhancing students' or professors' productivity have been categorized into five groups based on school situations and activities (Online Education Database, 2008).

i. Education-Specific: Education specific tools are the online applications that are designed to simulate teachers and students tasks, such as a grade book, learning management systems and a classroom organizer. This group includes applications like Engrade, Moodle, Chalksite, Schoopy, Gradefix, CollegeRuled, Tuggle and TeamCowboy for example.

ii. Calendars, Task lists, Planning: These tools are online applications that assist task management as needed, calendar, notification of due dates and so on. This group includes technologies, such as Google Calendar, 30boxes, Neptune, MyTicklerFile, Zoho Projects and MyStickies. .

iii. Research and Documentation Tools: These online tools provide office productivity suites such as word processor, spreadsheets and various research tools. This group includes Google Docs and Spreadsheets, Bloglines, Google Reader and Del.icio.us for example.

iv. Diagramming, Presentation, and Other Visual Tools: These online diagrams and other visual aids often reduce the time spend on the research process, and sometimes, provide facilities for sparking untapped ideas. This group includes applications such as Mindomo, Gliffy, Thumbstacks and Empressr.

v. Miscellaneous Productivity Tools: This group of online applications is provided for general productivity purposes. These applications enable better communication via social networking. This group includes GMail, Meebo, Campfire and Zoho Creator.

Thus, it is very clear that many Web 2.0 applications support a wide range of online educational purposes. The advantages of Web 2.0 for education increase academic productivities very effectively.

2.2 Barriers to eLearning

Possible imbalance between the eLearning content, its effective management and the eLearners' capacity may create a few barriers to eLearning. This paper will cite a list of possible barriers to eLearning.

The barriers to eLearning in institutions included faculty compensation, blended learning expertise, legal issues, evaluation, social interaction and its quality, organizational change barrier, student support services, access, threats created by technology and administrative structure (CAPDM, 2008). These barriers to eLearning do not just occur in the schools or colleges but also in the industrial sector. A recent Industry Engagement Project of the national training system's eLearning strategy conducted by the Australian Flexible Learning Framework found that at the organizational level, the following barriers to implementation existed (Higgins & Keightley, 2007) p. 15:

- making the case for eLearning
- persuading management to invest in eLearning
- equipping learners with the skills to participate in eLearning
- engaging learners in using eLearning and linking this to employability
- measuring the effectiveness of eLearning outcomes and linking them with business targets
- ensuring there is the technical capability to deliver eLearning and there is no difficulty for learners to access the material
- overcoming workplace constraints that can impact eLearning, such as supervisors not providing sufficient time for the learning to occur
- overcoming negative perceptions of eLearning for example, that it is impersonal, or not as good as classroom training, or that the medium is seen as a threat.

On the other hand, in the industrial sector at the employee level there are several predictors of barriers in using eLearning (Higgins & Keightley, 2007):

- Self efficacy- lack of behavioral skills,

such as taking responsibility for learning and time management

- Computer competence- insufficient computer and Internet skills and fear of exposure in a new environment
- Organizational- lack of proper policy and planning and supportive culture for example, time for training, incentives, resources.

Consequently, the most frequent and influential barriers encountered is shortage of good infrastructure, technology expertise and acceptance of organizational change (CAPDM, 2008). However, barriers to eLearning can be minimized if there is strong support from leaders, agreement of organizational rules and having positive thinking toward eLearning (CAPDM, 2008). Web 2.0 with open source reduces one of the strongest barrier to eLearning, and that is, 'the investment' in the applications which in turn can provide more options for eLearning implementation (Nigol, 2008). The only need to implement is the creativity and imagination of the stake-holders (Nigol, 2008).

3) HITS MODEL

There are many models that promote best practice for eLearning. The practical guide to eLearning for industry, for example, includes ten parts of consideration: understanding eLearning, deciding about eLearning, preparing for eLearning, funding eLearning, managing eLearning, designing eLearning, producing eLearning, testing and evaluation of eLearning, delivering eLearning and future trends (Higgins & Keightley, 2007). In order to complete the practical guide to eLearning for industry, users need to have a clear understanding of eLearning at a primary stage then follow the other steps. The practical guide to eLearning for industry tends to focus on processes of eLearning production, or in another words, the courseware. Despite, an effective production of eLearning, a comprehensive support of technology used on the Internet needs to be consider (Virkus, 2008). Moreover, the key role of eLearning need to emphasis active learning. The active creation, communication and participation means that the people be involved in every online learning activity (Downes,

2008). The emergence of Web 2.0 is believed as a social revolution rather than a technological revolution (Downes, 2008). The cultures and social trend influence the life-styles and drive people to participate on the Internet activities. These days, the 'blended' models of eLearning might be claimed as the most successful. This is because of the combination of *high-tech* that creates convenient online platforms and the *high-touch* which increases the mental support face-to-face access to mentors plus other learning support services (Aged and Community Services Australia, 2008).

Thus, referring to the information from lists of barriers to eLearning and discussion of existing model of eLearning implementation, the researcher would like to propose a new HITS model for borderless eLearning. This model is based on four main aspects- **H**uman, **I**nstruction, **T**echnology and **S**ocial. The 'HITS' model is a simple model which aims to present four main pillars that the organizers need to consider when creating eLearning solutions (see Figure 1).

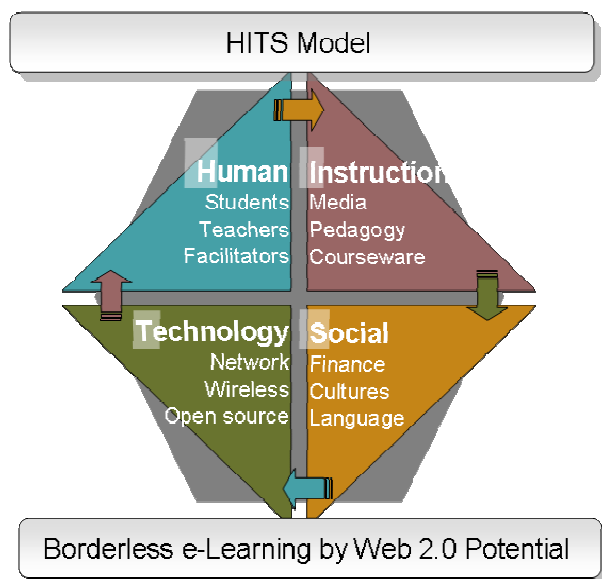


Figure 1: HITS Model for Borderless eLearning

The HITS model for borderless eLearning based on Web 2.0 is a dynamic model. Each pillar of HITS model has been grouped to assist institutions and organizations to tailor their own eLearning. In this cyclic model all elements are equal in terms of their significance. The researcher will describe "Human" as the first item since eLearning is for the people or

human beings. The details and functions of each pillar of HITS model are as follows.

Human

'Human' in the HITS model mainly refers to students and teachers. It is crucial to include facilitators who assist both students and teachers to perform online learning tasks. The facilitators could be administrators, monitors, web developer or others who are involved in eLearning. The expect behaviors of both online students and teachers are: good communication skills, good netiquettes, positive thinking toward online learning activity and adequate computer literacy.

The important tasks of online professors in Web 2.0 enabled learning environment are: promote a sense of community within the student group, manage the community, maintain motivation, give prompt feedback, support students as per their needs, offer options and advice to enable learners to complete the tasks (Dain M, Dincic D, & Wheeler S, 2007). The online lecturers should make an effort to facilitate interaction and collaborative experience (Dain M et al., 2007). Moreover, online lecturer have respect for diversity such as ability, age, race and different learning styles (Dain M et al., 2007). The important character of online students is to participate within a community, interact with other learners, engage with the courseware and actively communicate online (Dain M et al., 2007).

Instruction

'Instruction' in the HITS model mainly refers to media, pedagogy and courseware. The Web 2.0 has invented more media application to facilitate learning. For example, video is number one emerging technology which has become mainstream for teaching, learning, or creating new content (The New Media Consortium & the EDUCAUSE Learning Initiative, 2008). The instructional design might be the most important influence on pedagogy and courseware. The courseware should be students centered and include Web 2.0 experiences such as tasks which involve collaboration, multimedia responses, applying key concepts and skills (Dain M et al., 2007). Poor eLearning courseware includes, for

example, many talks then tests. Thus, it should care more about how to make understandable content rather than amount of content (Moore, 2008). Some pitfall that could be avoid include: push learner to work harder than necessary, dull and formal presentations, limit humor, conflicts, and above all, lack of creativity (Moore, 2008). These factors makes eLearning harder and impacts learners' motivation as well as increase production costs (Moore, 2008).

Technology

'Technology' in the HITS model mainly refers to a new wave of networks, wireless and open source. The technology enhances the growth of software, hardware, devices and capacity of networks. The Web 2.0 technology drives online learning to be an active learning by providing many tools such as tracking, tagging, mesh-up and other intelligent solutions. With the frantic growth in technologies there is no doubt that mobile campus and wireless university will be ubiquitous by the year 2015 (Sharples, 2006; UNESCO Bangkok, 2005). The new types of wired and wireless network have been continuously developing to offer more comfortable options for receiving information and rich media, any where, any time and any proper devices (Cobcroft, Towers, Smith, & Bruns, 2006).

Social

'Social' in the HITS model mainly refers to effect of Web 2.0 that minimizes issues of finance, cultures and languages. Web 2.0 creates a better opportunity for eLearning since it is open source. It allows and promotes open courseware and repositioning of contents. In addition, social networking phenomenal has reformed online culture and introduced new concepts of sharable content systems to reduce investment in eLearning. The limitations of non-English languages have also been reduced because of the international translator components. As a result learning a second language using Web 2.0 applications has become more common on the web. The explicable and creative design, graphics, icons and languages used in a courseware support people from different background to be able easily interact with the interface (Moore, 2008).

4) Conclusion

In conclusion, the proposed HITS model describes how Web 2.0 technologies can enhance borderless eLearning. This paper has revealed that Web 2.0 potential allows better eLearning implementations. The existing barriers to eLearning can be decreased if implemented with Web 2.0 for the next learning generation. It might be claimed that HITS model cover all important aspects and the need for instituting a shift from the existing eLearning environment to Web 2.0 format. The appropriate usages of Web 2.0 will make eLearning more effective, flexible, intelligent, and above, all ready to adapt to the next generation of Web 3.0 technologies.

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