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Exploring Educational Platforms and Community Behavior to support DLSU Online Blended Learning Initiative

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Abstract: Online Blended Learning is defined as a formal education involving partial learning through online delivery of content, instruction; and partial face to face classroom combined with computer mediated activities. This educational innovation is commonly rampant in first world educational institutions but rarely explored in educational environments in the third world. In this study, we examine different educational technology platforms that are currently being used in first world educational institutions in Asia and America, and see if this may be a potential innovation to adapt in a high learning institution in the third world, particularly in De La Salle University (DLSU) Manila. This study is intended to support the research initiative of Online Blended Learning as a potential learning change in the Lasallian Community. Comparison Technique is implemented in order to examine the roles and reviews of the top educational technology platforms used for Online Blended Learning in the above mentioned regions. Furthermore, Sampling Technique is also used in order to gather behavioral feedback from the DLSU Faculty and Students per college on potential implementation on this new learning innovation. Findings indicate that online synchronous learning may be more appropriate for the academe as best practice suggests for stronger governance and collaboration between faculty and student considering a potential pilot implementation. However, culture of the academe based from sampling indicates that students prefer asynchronous learning environment across all colleges. Though most students and faculties accept e-learning in general, content management delivery and training are deemed most essential to their respective college needs.

Key Words: Online Blended Learning; Education; Technology; Platforms; Asia; Virtual Classroom; Internet

1. INTRODUCTION

DLSU exhausts its efforts and initiatives towards formation and community engagement to help students and staff improve being an institution for higher learning. Given that one of the role of the institution is to be responsible for "*encouraging and promoting new programs, educational changes, and innovations for providing leadership and guidance in the academic programs, services and all academic endeavors of the university"* as lifted from the official DLSU website, it is truly vital to consider in the research to look into the current learning innovations different academic communities from all over the world to benchmark its current learning strategies from. In the past years, significant change has occurred in learning. Once viewed as rigorous, difficult, and complicated way to complete; faculties and students now recognize that time and technology have evolved to accept the development and delivery of high quality online courses to now become substantial and predominantly effective especially in the K-12 setting in the United States. Online learning takes on several forms- including fully online courses, hybrid, or blended courses that contain some face to face contact time in combination with online delivery, and technology enhance courses, which meet mostly face to face, but incorporate technology into the course.

The previous AVCAA office has chosen specifically Online Blended Learning as the form of online learning to explore in its research towards assessing which educational technology platform can best suit the culture of the academic institution. This research considers aiding AVCAA in gathering reviews and concluding from existing literatures which among the top educational technology platforms from the top universities of Asia and America practicing Online blended learning are most valuable and effective. Given that this will be used in DLSU, this will lead to improved educational services and furthermore, DLSU can be more adept in the application of technological advancements in the field of education.

2. OVERVIEW OF LITERATURE

Online Blended Learning now takes on different forms including the use of technology to enhance traditional face to face learning. It has now evolved to a hybrid class that combines both face to face meetings and online work with fully online credited courses. These virtual learning innovations have effectively grown- both in synchronous and asynchronous online learning. (Pratt and Palloff, 2007) A blended course is a kind of teaching innovation that offers advantages over the traditional form of didactic lecture where learning is seen as a one-way transfer during classroom time. Basic concepts can be taught through online video lecture, online interactive exercises and online discussions in a self-paced, asynchronous mode. Synchronous refers to the teaching and learning activity happening at the same time, real time while Asynchronous would refer to its opposite meaning interaction is not live or in real time. Messages are sent at one time and response from learner is given later. In online blended learning, students' mastery of lower level knowledge can be assessed through online/in-class assessments. The traditional classroom time can then be turned into highly interactive sessions where students can apply what they have learnt online into other situations or develop their higher order thinking through the interactions between instructors-students or among their peers depending on the chosen strategy for Online Blended Learning. (Center for Enhance Learning and Teaching, 2014)

Figure 1 from Harvard University paper authored by Charles Maguire further illustrates the relationship of the traditional and distance learning being mixed together to reflect Blended Learning which gives more appropriate delivery techniques and technologies to achieve desired learning experience. Online Blended Learning is the utilization of different delivery technology or modes and the inclusion of face to face meetings at some point of the course.

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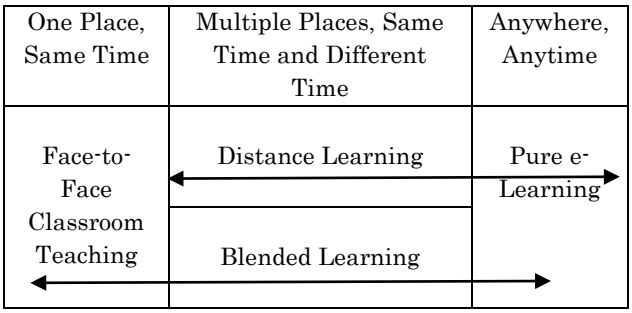

Figure 1: Spectrum of Delivery Models

The chosen best practices from Online Blended Learning were considered basing from the top academic institutions within the Asia and America Region's use. The following educational technologies' information were all gathered from their main websites -including reviews and commentaries of students and faculties practicing the technology within their main page.

EdX (Open Source)

The colleges and university that comprise edX consortium are among the best in both the America and Asia Region. Currently being used by Massachusetts Institute of Technology (MIT) (Top 1 in America), Harvard University (Top 2 in America), The Hong Kong University of Science & Technology (Top 1 in Asia), etc.). EdX is a massive open online course (MOOC) platform founded by the Massachusetts Institute of Technology and Harvard University in May 2012 to host online university-level courses in a wide range of disciplines to a worldwide audience at no charge and to conduct research into learning. EdX offers interactive online classes and MOOCs from the world's best universities. Online courses from MITx, HarvardX, BerkeleyX, UTx and many other universities. Topics include biology, business, chemistry, computer science, economics, finance, electronics, engineering, food and nutrition, history, humanities, law, literature, math, medicine, music, philosophy, physics, science, statistics and more. EdX is a non-profit online initiative created by founding partners Harvard and MIT.

Moodle (Open Source)

The universities currently using Moodle are mostly rampant in the America region namely MIT Teacher Education Program (Top 1 in America), University of California, University of Georgia, University of York in the Europe Region and for Asia, Yamaguchi University in Japan. Moodle has several features considered typical of an e-learning platform, plus some original innovations (like its filtering system). Moodle is very similar to a learning management system. Moodle can be used in many types of environments such as in education, training and development, and business settings. Based from rates and reviews, Moodle is regarded as stable as it is able to handle high loads of data. It is extensible as it allows addition of module user requires. Moodle is also customer as there are many options available in order to adjust based on user preference.

The basic requirements for Moodle as follows (directly lifted from Moodle Installation Requirements): oDisk space: 160MB free (min) plus as much as you need to store your materials. 5GB is probably a realistic minimum.
oBackups: at least the same again (at a remote location preferably) as above to keep backups of your site.
oMemory: 256MB (min), 1GB or more is strongly recommended. The general rule of thumb is that Moodle can support 10 to 20 concurrent users for every 1GB of RAM, but this will vary depending on your specific hardware and software combination and the type of use. 'Concurrent' really means web server processes in memory at the same time (i.e. users interacting with the system within a window of a few seconds). It does NOT mean people 'logged in'.

Blackboard (Closed Source)

This is a commercial closed source virtual learning environment being used in the America region.
The Blackboard Learning System is a virtual learning environment and course management

system developed by Blackboard Inc. It is a Web-based server software which features course management, customizable open architecture, discussion forums, syncs ,etc. This may be installed or hosted by Blackboard ASP Solutions. Available IT Help Desk and System Administrator and includes Comprehensive FAQ and Help Documentation for Student Navigation.

3. RESEARCH OBJECTIVE AND METHDOLOGY

With all the promising results online learning has to offer, instructors and students still experience a whole new set of issues based on the results on the use of new technological platforms such online blended learning tools along with the educational issues surrounding it. This paper aims to present best educational platforms being utilized by top university based on results of current research initiatives related to this study and provide support academic behavior towards blended learning evaluation on its effectiveness. Furthermore, the following research methodology was used:

Evaluating and Criticizing

A comparative analysis was used to assess top educational technologies for online blended learning belonging to the top 3 universities in the Asia and American Region. The different Online Learning tools were evaluated in terms of the following criteria

- **Features**- Ease of Use, Variety of Features, Interface, Security,
- **Maintenance and Set Up**- Installation, Role Privileges, Hardware and Software Requirements, Language
- **Help and Support**- Tutorials, Technical Manual, Online Support
- **Compatibility**- for Windows 7/ Vista/ XP, and Mac OS

Survey Sampling

Furthermore, a sample of 20 students and 3-5 faculty members per college were administered containing behavioral inputs on their perspective towards Online Blended Learning if implemented. Data gathering included their attitudes towards the use of Online Blended Learning technologies, expectations, and their respective technology asset readiness.

4. RESULTS AND DISCUSSION

Comparative Analysis of Blended Learning Technologies

Table 1 contains rating and scores based on the comprehensive rates and reviews from the discussion forums of the respective learning platforms presented. Score scale being 5 as the highest and 1 as the lowest.

Table 1. Educational Technology Platform Ranks

PLATFORM	FEAT.	MAINT.	HELP	COMP.	SCORE
EDX	4/5	2/5	2/5	5/5	13/20
MOODLE	4/5	5/5	3/5	5/5	17/20
COURSERA	5/5	4/5	5/5	5/5	19/20
BLACKBOARD	5/5	5/5	5/5	5/5	20/20

Note: Ranking is based on personal assessment rooted from current literature reviews of the VLEs.

From the assessment, Moodle and edX may contain basic features for online learning however will have issues in terms of help and support. In house developers to study the open source documentation may be needed to provide direct support to the learning platform stakeholders. Closed Source Platforms such as Coursera and Blackboard, though comprehensive on features and support will have issues on cost and geographic constraints on maintenance and set up and support.

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Most main websites of top VLE platforms across Asia and America do not contain comprehensive/ complete information about their respective platforms. Most reviews are obtained from student and faculty blogs that speak about their individual experiences in using the educational platform. The most comprehensive information obtained with regards to its platform features, maintenance and set up, help and support, and compatibility is Moodle.

Alternatively, building an in house VLE (Virtual Learning Environment) may be considered instead of exploring open source and closed source VLE platforms. In the Asia Region especially for third world countries, schools are prone more to using in house developments for online learning instead of purchasing vendor VLEs. At present, DLSU-Manila's Center for Educational Multimedia (CREM) trains faculty members in the proper use of the Integrated Virtual Learning Environment (IVLE). This learning platform may be further tapped and maximized as it allows the creation of course calendar, discussion forum, distribution list, lecture plan, chat room, subscription services, assignment repositories, staff homepages and a frequently-asked question builder. Through IVLE, teachers can also post lesson plans, give and collect assignments online and provide links to relevant web sites. Students can even take tests online which are automatically corrected by the program. This already provides the basic elements needed in a virtual learning environment. Based from sampling interviews, currently, IVLE is not being utilized and if it is, usually it is only used for examinations. Moreover, students become prone to cheating, thus the need for stronger governance from the faculty or at least have the examinations via traditional face to face. The top ranking online learning platform tools mostly started as in house developments in the respective university which they operate. (e.g. MIT's edX and Stanford's Coursera). In the Philippines, the University of the Philippines also practices online learning called the University of the Philippines Open University (U.P.O.U.). However, this is a public distance learning institution and Research University headquartered at Los Baños, Laguna. Currently, no universities/ learning institutions in the country are practicing blended learning model with their in-house developed VLEs if any.

Academic Behavior towards Blended Learning

A sampling survey was conducted that examined the level of technical competency and accessibility among teaching faculty and students, and their attitude and perception towards the use of e-learning.

Sampling results on student behavior towards online blended learning indicate the following: (1) Accessibility is not an issue for the students, (2) All colleges are open to online blended learning with asynchronous learning environment preference over synchronous learning, and lastly, (3) colleges that prefer traditional learning are the College of Education, College of Engineering and College of Science

Meanwhile, faculty findings indicate that accessibility is not an issue for faculty members. Although all college faculties are open to Online Blended Learning, traditional classroom teaching is still preferred by the College of Business, College of Engineering and College of Science; with synchronous learning as preference of majority. More importantly, faculty would like to prioritize adequate training for virtual classroom teaching and course online designs.

When relating the conclusion from literature and the responses of the DLSU Community, we can interpret that teachers' and students' computer literacy, accessibility as well their perceptions and attitude towards technology were significant measures of e-learning implementation readiness. This research finding show that teachers and students are ready to embrace e-learning technology, but there is a need to enhance their technical capacity through training for successful e-learning adoption. The study revealed a positive correlation between online learning literacy and acceptance.

The following gaps should be addressed in order to create a more conducive blended learning environment for the university.

Need to Ensure Institution Readiness Criteria are met

Section 2.1.5 Institution Readiness Criteria for Online Learning Platform outlines five aspects to ensure blended learning success. 8 out of the 20 key points have been currently fulfilled.

Institutional Planning - (4/6)

• Blended learning is a good fit with the character and mission of the institution

• Goal and Objectives set for blended learning are evident to the institution's constituents- including admin, faculty, and students

• Clear and Articulated mission and strategic plan aligned with the campus community (not ready)

• Dedicated Leadership Support for the Blended learning initiative

• Shared vision from the top administration to support campus wide initiative

• Course or Program Pilot in plan to test the model before large scale implementation (not ready)

Infrastructure Planning (3/4)

• Campus is equipped with robust technological infrastructure to support blended learning

• Accessibility to university information and network services

• Well-equipped campus labs with multimedia production support

• Centralized deployment of VLE platform across all departmental units (not ready)

Marketing (1/2)

• Clear definition of online blended learning to communicate across stakeholders both internally and externally (not ready)

• Complementary research and analysis support for the blended learning initiative

Instructor Support - (not ready) (0/4)

• High Instructor Level Interest to pursue new instructional delivery mode

• Institution supports instructors via incentives, rewards, and training needs in preparation to teach in the blended mode

• Faculty Development Program on Blended learning considered

• Education of instructors regarding adherence to copyright law and fair use practices

Quality Assurance- (not ready) (0/2)

• Assessment on high quality standards for course and instructor

• Presence of accrediting agencies to certify online blended framework according to high learning standards

Learner Support - (not ready) (0/2)

• Orientation/ Training for students and Help Desk Facility to Support

• Equipment readiness and accessibility to the VLE platform

Need for Thorough Examination of College Courses of its Applicability to be Taught Online

There are some courses that would still need hands on experience for a more holistic learning. There should be a research collaboration between faculty and student if a course is appropriate to teach online. Ideally main elements of academic courses that involve learning concepts and principles only may be

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achieved online. However, there may be challenges to teach with online courses for those that are heavy on visuals such as Art, Biology, Medicine, and Engineering. (Shank, R, 2009)

5. CONCLUSIONS

For institutions that have no existing blended learning courses, examining these issues, gaps and planning around them together with their campus community may be inevitable in launching a successful program from the start. Regardless of the situation, creating a successful experience for the learner requires support from the entire campus community.

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