



## A STUDY OF BLENDED LEARNING STRATEGIES FOR PROJECT-BASED STUDIES

Henry Ma

The Hong Kong Polytechnic University, Hong Kong

*Corresponding Author:* henry.ma@polyu.edu.hk

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### Abstract

Traditionally, design disciplines rely heavily on studio-based learning with a learning-by-doing approach. Through the active participation and expectation of ownership, studio-based learning is an effective method allowing students to be fully engaged in their study. However, project-based approach usually cannot be well catered in eLearning platform, and design faculty does not find benefit from using the eLearning system. This leads to a relatively low percentage of design faculty in using eLearning system for their teaching and learning activities.

Owing to the popularity of social media, some eLearning systems have already implemented tools like discussion board, blog and journal that can facilitate communication like a studio-based learning environment but in a virtual space. The online learning community can serve similar purpose as studio-based learning in teacher-student and student-student communications. The objective of this action research project is to explore and develop a successful blended learning approach to utilize the exiting communication tools in the eLearning system to simulate the studio-based learning environment.

This paper documented the action research project in developing project-based eLearning strategy and model in School of Design of The Hong Kong Polytechnic University. The project employed various eLearning activities to enable students to engage in project-based learning. These activities included (1) journal writing which required students to make day-to-day online reflection during the project development; (2) forum discussion which facilitates open online discussion among the class that encourage peer-to-peer learning. This paper discussed

the result of the action research project and identify factors that affect the effectiveness of the blended learning strategies in project-based studies.

**Keywords:**E-Learning, Blended Learning, Project-based Learning

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## 1. Studio-Based and Project-Based Learning

Studio-based learning allows students to work on a project for a long period and the depth of the investigation is deep enough to maintain the interest of the students (Burroughs et al., 2009). It allows students to be fully engaged in their study and take ownership to their works. By completing a project, students go through the whole design process from idea generation to production with numerous in-between evaluations and assessments. The studio-based learning approach also provides a dedicated setup and space, students are engaged in practical work and fully participated in all teacher-student and student-student discussion and learning.

Studio-based learning also allows students to learn from the teacher as an instructor as well as practicing professional. Through the teacher-student interaction, students learn the way practicing professionals think and how they approach design issues. Students will be cultivated by these interactions and learn not only the theory and practice but also “the set of sensibilities, beliefs, and idiosyncrasies of this particular community” (Brown, 2005).

Through studio-based learning, students can receive immediate feedback from their decisions made or strategies used by instructors. In lecture-based learning, feedback from the teacher is normally facilitated by assignments. This type of feedback loop normally takes a longer time and teachers might only comment on the final outcomes and be unable to address the development process issues. Interaction between teachers and students will be minimized and unsynchronized. For studio-based learning, prompt feedback from teachers can facilitate a better learning experience (Bazillion & Braun, 1998).

Learning from peers can be more effectively and efficiently carried out through studio-based learning. As indicated by Glinkowski, Hylan and Lister (1997), the studio-based environment is an open environment; students can see other’s progress and communicate freely with others in resolving their problems. The dedicated studio space facilitates a confined environment and simulates the professional community and allows students to participate fully in technical and social interchanges.

## **2. Benefit of Project-based Learning**

Compared to the traditional lecture-based learning, project-based learning provides students with a complete experiential learning cycle that renders students “a holistic integrative perspective on learning that combines experience, perception, cognition, and behavior” (Kolb, 1984).

Kolb’s (1984) learning cycle helps us to understand how people learn from making conclusions from their prior experiences and making informed judgments towards new decision to be made. This experiential learning model built on Dewey, Lewin and Piaget’s learning theories and suggested learning involves a cycle of four stages process. The learner starts with a personal involvement in a particular experience. Through observation and participation, the learner reflects on this experience and finds meaning in the experience. The learner then concludes the experience and constructs an abstract concept from it. Finally this newly gained understanding is further used to make decision and take action, and consequently generates new experience (Svinicki& Dixon, 1987).

Based on Kolb’s experiential model, we can see how students learn from their projects-based learning through (1) concrete experience; (2) reflective observation (observation and reflections); (3) abstract conceptualization (formation of abstracts concepts and generalization) and (4) active experimentation (testing implications of concepts in new situations).As indicated by Svinicki and Dixon (1987), different instruction designs and activities help to realize various stages of the experiential cycle. Like discussion and journal keeping help students to reflect on their experience, model building helps students in abstract conceptualization etc.

## **3. The Blended Learning Studies**

This action research project aims to develop eLearning strategies to apply eLearning methods in traditional project-based learning approach. Design is a discipline that heavily relies on project-based learning and studio-based approach in conducting classes. Project-based approach usually cannot be well catered in eLearning platform, and design faculty do not find benefit from using the eLearning system. This lead to a relatively low

percentage of design faculty in using eLearning system for their teaching and learning activities.

The avoidance of design faculty engaged in the eLearning system for project-based studies are largely due to their expectations that (1) the eLearning system is difficult to use, (2) developing eLearning material is time consuming, (3) they cannot be benefited from the eLearning system owing to that the system does not work with project-based learning, (4) studio-based approach cannot be realized in the eLearning platform.

Currently, many eLearning platforms provide tools like discussion board, blog and journal that can facilitate communication like a studio learning environment but in a virtual space. The online learning community can serve similar purpose as studio-based learning in teacher-student and student-student communications. However, the asynchronous communication and lack of well-defined approaches in conducting and assessing studio-based learning in online community avoid design faculty in adopting such eLearning approach in their teaching practice. The purpose of the study is to explore and develop a successful eLearning approach to utilize the eLearning platform communication tools to simulate the studio-based learning environment.

#### **4. The Study Method**

In order to fulfill this blended learning activities, the project team utilizes the discussion board, blog and journal to facilitate the communication like a studio-based learning environment and also documents the communication between teachers and students to facilitate further teaching and learning purpose.

The project involved two bachelor degree programs and a total of 70 students in 2 project-based subjects in an academic year. Blended learning instructions required students to attend weekly face-to-face tutorial and submit self-reflective journal after the meeting to the eLearning platform. The eLearning platform also provided students with blog and discussion forum functions. Focus groups interview of students were made after the completion of each semester studies. The interview data and the content submitted to the eLearning system were further analyzed to evaluate the performance of the eLearning strategies.

#### **5. The Findings and Discussions**

Finding 1: A majority of students did not see the eLearning platform was difficult to use

It is a common belief that students avoid using eLearning platform is due to the difficulty of use. As indicated in the interviews, some students claimed that they found no difficulty in using the eLearning platform. While some of the students mentioned that they had no experience of the eLearning platform but they did not see the eLearning platform would be different from the other social media platforms like Facebook, Whatsapp or Google Drive in the journal or discussion forum functions. This finding showed a majority of students did not consider the eLearning platform was difficult to use. There is no barrier in the use of the eLearning platform.

Finding 2: Most of the students considered the eLearning approach was inefficient for project-based learning

A lot of students indicated that they used the eLearning platform mainly for retrieving course materials like teaching schedule, lecture notes and assignment submission. All of them considered these functions served efficiently with the eLearning platform. However, most of them claimed that the eLearning platform had a lot of deficiencies that stopped them from using it in project-based learning.

Design students used to take note on their inspiration through drawing on their log book and share his or her ideas with others. The eLearning platform did not support this freestyle note taking and drawing, moreover, some students also mentioned that the user interface of the eLearning platform was not user friendly and they have to put extra effort in using it.

Some of them also suggested the using of the eLearning platform was redundant in their studies. Students usually had to meet their supervisors weekly, report their progress and seek advices and comments from them. They also had to submit their self-reflection as a journal to the supervisors through the eLearning platform. Some of the students claimed that they had to copy information from the log book and put it into the journal for satisfying the demand of their supervisors.

Moreover, some of the students said that they were very busy with the project and they were running out of time to put extra effort in communicating with their supervisors and fellow students in the eLearning platform.

Findings 3: Some of the students considered the eLearning approach was ineffective for project-based learning

Some students claimed that the eLearning platform did not contribute any value to the traditional face-to-face learning. They considered the current face-to-face tutorial was good enough and did not see writing individual journal would benefit them. A few students also mentioned that they seldom took a second look at their own notes, they felt listening to the comments of their supervisors in the face-to-face tutorial had fulfilled their learning. Moreover, they found the immediate feedback from their supervisors was way better than the delayed feedback from the eLearning system. Some students also avoided to share their ideas for preventing their ideas being stolen by others, and some students actually did not see any benefit from knowing others works.

### **Conclusion**

The action research study aims to identify factors thzt makes teachers and students avoid using eLearning platform, and develop eLearning strategies to apply eLearning methods in traditional project-based learning. The idea of utilizing eLearning platform is not to replace traditional face-to-face learning in project-based approach, but try to enhance the learning experiences of students with a blended learning approach.

The main idea of project-based learning is to enable students fully immersed in an experiential learning cycle go through the processes of (1) concrete experience, (2) reflective observation, (3) abstract conceptualization and (4) active experimentation. The eLearning approach can help to enhance (1) students' self-reflection, (2) student-teacher communication and (3) peer-to-peer learning.

A majority of students only considered the function of eLearning platform is to provide a centralized space to disseminate course materials and submit assignments. However, they over looked the function of the platform that would allow them to communicate and share their own thought which is a key concern for peer-to-peer learning. In the above findings, it is obvious that some of the students do not see the self-reflection as an important learning process. In the traditional face-to-face project-based learning approach, students do not required to submit any written report in their course of study, it is very difficult to ensure that they have gone through a self-reflection process. Actually, it is the eLearning approach which help to review the deficiencies of students in the self-reflection learning issue. A proper implemented journal writing in eLearning approach shall help to improve the self-reflection learning process.

If we admit blended learning approach is an effective method for project-based learning, then the only concern is whether both teachers and students are motivated to fully commit to it. A lot of the comments mentioned by the students concerning the inefficiency of the eLearning approach is all because they do not see the benefit behind this approach. The teachers should put extra effort to ensure the students recognize the benefit of utilizing the journal or blog in the eLearning system to enhance their self-reflection learning. Moreover, teachers should also participate actively in the discussion within this virtual space and ensure students are motivated in this learning process.

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