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ABSTRACT

Project-based learning involve a group of students completing a project with the aim of engaging students in deep learning and thus meeting specific learning outcomes. Performance might be assessed on individual or group basis by taking into account the depth of understanding of the content, the quality of artifact produced and the contributions made by each individual group member. Assessment of individual work might be unfair due to the fact that instructors are unable to monitor closely students' participations and contributions. In order to solve this, peer assessment has been used by some instructors. However, there is a tendency that students are biased towards their group members. Using IT as a medium in completing group projects can be a solution to these constraints. Through IT support, instructors not only will be able to view the evidences of individual student learning but also the process of learning and completing the project. Selecting the appropriate IT tools for collaboration and design of the project question are essential factors towards effective project based learning is. The main objective of this paper is to present a field experiment of IT Supported Project Based Learning through the use of collaboration software by second year students enrolling the Database Programming course. Pre and post questionnaire has been used as the data collection tool. Findings show that students found that they managed to complete the project according to schedule and work better as a team compared to completing group projects without IT support. From the point of view of the instructor, the process of students contributions is visible thus enable the activity of providing students feedback in terms of learning and motivating them in completing their projects.

ABSTRAK

Projek berasaskan pembelajaran melibatkan sekumpulan pelajar yang menyelesaikan sesebuah projek pembelajaran secara mendalam untuk mendapatkan hasil yang lebih spesifik. Prestasi boleh dinilai secara individu atau berkumpulan dengan mempertimbangkan pemahaman yang mendalam terhadap kandungannya, kualiti artifak dan sumbangan yang dihasilkan oleh setiap individu dalam kumpulan tersebut. Penilaian secara individu mungkin tidak adil kerana wujud fakta mengatakan bahawa tenaga pengajar tidak boleh memantau penyertaan dan sumbangan pelajar. Untuk mengatasi masalah ini, penilaian sejawat telah digunakan oleh beberapa orang tenaga pengajar. Bagaimanapun, pelajar akan cenderung untuk bersikap tidak adil terhadap ahli kumpulan mereka. Masalah ini dapat diatasi melalui penggunaan IT. Melalui sokongan IT, tenaga pengajar boleh melihat bukti dari pelajar secara individu dan meneliti proses pembelajaran dan penyelesaian projek tersebut. Pemilihan peralatan IT yang tepat untuk menggabungkan dan merekabentuk soalan adalah merupakan faktor penting terhadap projek berasaskan pembelajaran yang berkesan. Tujuan utama dari projek ini adalah untuk mengkaji projek berasaskan pembelajaran dengan sokongan IT melalui penggunaan perisian gabungan oleh pelajar tahun dua yang mendaftar kursus Pengaturcaraan Pangkalan Data. Pra dan Pasca soalan telah digunakan sebagai alat untuk mengumpulkan data. Hasil mendapati bahawa pelajar berjaya menyelesaikan projek mereka dalam jangkamasa yang ditetapkan dan mereka bekerja dengan lebih baik sebagai sebuah pasukan untuk menyelesaikan projek berbanding tanpa sokongan IT. Dari sudut tenaga pengajar, penglibatan pelajar ini sangat bagus kerana dapat memberikan maklumat balas terhadap pembelajaran dan memotivasikan mereka untuk menyelesaikan projek mereka.

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CHAPTER 1

PROJECT OVERVIEW

1.1 Introduction

Recent years there are common orientation in using projects in high and professional education as efficient and effective method to deliver the knowledge to students, because they expected beside the strong knowledge base social, communication and cooperation skills, and flexibility to work in deferent contexts and the ability to manage information and self and others. Now in the most of universities, teachers are using this approach in almost subject in variant tracks. Project based learning approach it's not a new method in education, researches in the area shows that there are many teachers used to use a projects as a supplement to their regular course of instruction since 1970's. Project based learning is a dynamic approach to teaching in which students explore real world problems and challenges, simultaneously developing cross curriculum skills while working in small collaborative groups. Because project learning is filled with active and engaged learning, it inspires students to obtain a deeper knowledge of the subjects they are studying. Researches also indicate that students are more likely to retain the knowledge gained through this approach far more readily than through traditional

textbook centered learning. In addition, students develop confidence and self-direction as they move through both team based and independent work. The big development and growth of technologies, communication, internet and the availability of information through it, increased the use of this approach, the Internet adds valuable dimensions to a PBL and it created new roles for students and teachers, it plays a significant role in facilitating the communication between the peers and with the instructor.

There are many and variety of available online collaborative tools and communication channels that students use such as emails, white boards, and video conferences and so on to communicate and share resources with the peers. The availability, ease of use and access, features and capabilities of these online tools communication channels it has an effective role in project success. Selecting an appropriate combination of technology tools and communication channels it's the most significant role in project success and to gain overall objectives of the subject. Also applying these technologies tools to the students project support the performance of complex, authentic tasks and provide experiences that prepare students for the real workplace. Furthermore the degree of student and instructors mastering of these tools communication channels it affects the project progress, flow of information and materials between the peers, and the management of the projects.

The main objective of this project is to provide effective guidance to IT online support for well designed subject's projects to achieve overall learning objectives. This project is trying to understand the learning approaches generally and study the relationships between them; focus on project based learning and get deeper understanding on it; investigate and study the current state of IT contribution and support for learning through projects and try to propose and design an executable framework that guides instructors and students to best usage of IT in project based learning.

1.2 Project Process

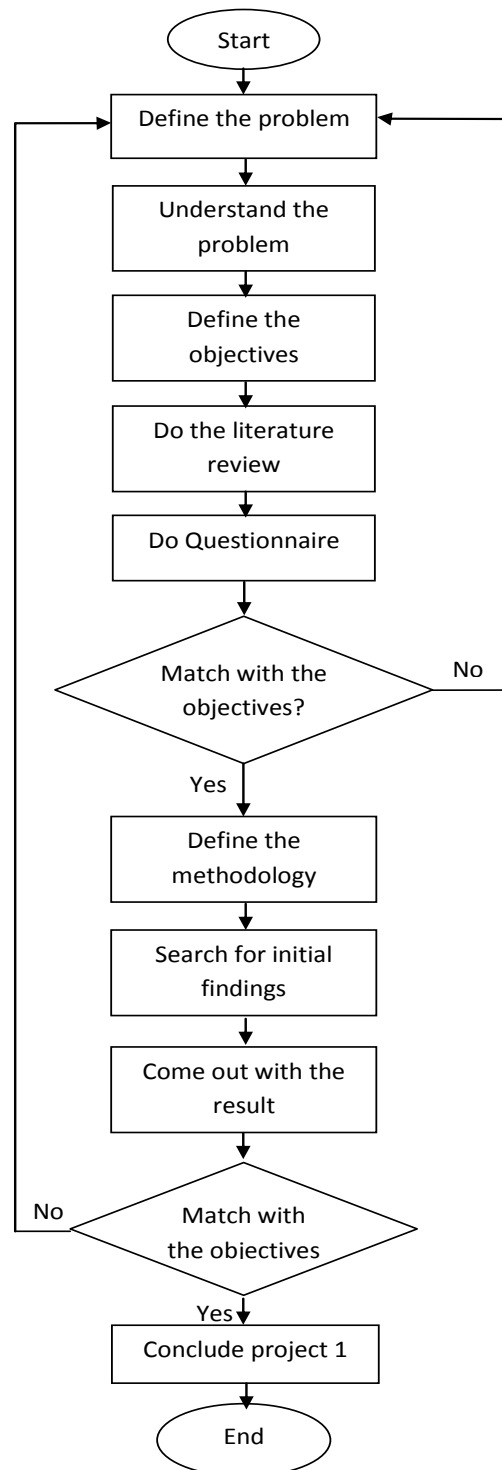


Figure 1.1: Project Process

1.3 Problem Background

The primary reason that project based learning is increasingly became popular is the need for education to adapt to a rapid changing in the world. PBL is attending to create new instructional practices that reflect the environment in which student now live and learn. As the researches in area of learning styles and approaches stated that there are uses of group projects in high education since four decades ago. And the use of this approach increased as a result of the development and grows of technologies, communication, and internet. And now days there are high depending on these communication and internet technologies as a form of tools to support the group projects in aspect of share resources, collaborate the work, and communicate with the peers. Accordingly, some tools are designated specifically to support this group working. Many factors related to the IT support Contribute to the success of the projects. All of these bring forth need to conducting researches and studies on how IT can support and facilitate learning throw projects effectively. There are many and variety of available online tools and communication channels that Student use, which requires a guide to integrate this variety of tools to support project based learning. Also there are need to determine what features and capabilities required to be in these online tools and communication channels because that is very important to developers they develop dedicated tools for project based learning. Selecting appropriate combination of technology tools and communication channels it's the most significant role in project success and gain overall objectives of the subject.

1.4 Problem Statement

The problem statement for this project is:

“How and in what aspects IT can facilitate and support effective project based learning?”

There are other questions rises while conducting this study:

1. What are the tools that are available and can support project based learning?
2. How can we integrate variety of available tools to support effective project based learning?
3. What are the requirements of tools to supporting project based learning?
4. What is the best usage of tools for effective project based learning?

1.5 Project objectives

The project objectives are:

1. To investigate the tools that support communication and collaboration.
2. To identify the different tools that are currently used in project based learning.
3. To develop framework to guide for best usage of tools for effective project based learning.
4. To apply and evaluate the framework.

1.6 Project Scope

This research will consider the available communication and collaboration Tools that can support PBL and not developing new Tools.

The framework will applied in course projects in class SCM2473, Database Marketing for Faculty of Management and Human Resource Development (FPPSM) students majoring in Marketing, and will be evaluated depending on the outcomes of these projects.

1.7 Importance of project

Project based learning is became one of the most important approaches that used in high education for many reasons and in many aspects. IT play significant role in project success by contributing to facilitate accomplishing the two central tasks of project based learning, communication and handling of working materials. Study how IT can support project based learning and provide a framework will helps instructors and students to get the most desired outcomes and achieve the learning objectives.

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