EXPLORING THE USE OF PROJECT-BASED LEARNING ON STUDENT ENGAGEMENT AT TAYLOR'S UNIVERSITY, MALAYSIA

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Abstract

The previous research suggested that Project based learning generally has many positive impacts on the learning experience. However there are no in depth studies to explore the impact of Project based learning on student engagement particularly in four aspects namely responsible learning, strategic learning, collaborative and energized by learning. Therefore, this study focuses on the impact of using of Project based learning on student engagement particularly in these four aspects. This paper is an action research study looking at the effect of using project based learning on student engagement in learning History at Taylor's University, School of Hospitality and Tourism. The study is based on the implementation of a video presentation project assigned to students as a part of their assessment in the Malaysian Studies. The aims of this study are to determine the effect of project based learning on student engagement in learning history, and to improve the teaching and learning experience. Data was collected from focus groups, questionnaires, classroom observations and instructor's evaluation. The findings demonstrate that project based learning can support student engagement in improving their responsibility, collaboration, strategic learning and motivation. Suggestions for improvement in the implementation of project based learning are also presented based on the findings from this study.

Keywords: project based learning, student engagement

Abstrak

Penyelidikan terdahulu membuktikan bahawa Pembelajaran berasaskan Projek mempunyai kesan positif terhadap pengalaman dan pembelajaran pelajar. Walau bagaimanapun, tidak ada kajian yang mendalam dijalankan bagi mengkaji kesan pembelajaran berasaskan projek terhadap pelajar khususnya dalam empat aspek iaitu sikap tanggung jawab terhadap pembelajaran, pembelajaran secara strategik, nilai kerjasama dan minat dalam pembelajaran. Oleh itu, kajian ini memberi tumpuan kepada kesan pembelajaran berasaskan projek terhadap pelajar khususnya dalam empat aspek ini. Kertas kerja ini merupakan hasil satu kajian tindakan untuk melihat kesan pembelajaran berasaskan projek dalam pembelajaran Sejarah di Universiti Taylors Malaysia. Kajian ini adalah berdasarkan pelaksanaan projek persembahan video yang diberikan kepada pelajar sebagai sebahagian daripada penilaian kursus subjek Pengajian Malaysia. Tujuan utamanya adalah untuk menentukan kesan pembelajaran berdasarkan projek terhadap penglibatan pelajar dalam pembelajaran sejarah, dan untuk meningkatkan pengalaman pengajaran dan pembelajaran di kalangan pelajar. Data telah dikumpulkan daripada temubual berkumpulan, soal selidik, pemerhatian dalam bilik darjah dan penilaian kerja oleh pensyarah. Hasil kajian menunjukkan bahawa kesan pembelajaran berasaskan projek pelajar dapat meningkatkan penglibatan pelajar dalam pembelajaran terutamanya dalam meningkatkan sifat

bertanggunjawab, kemahiran bekerja dalam kumpulan, pembelajaran yang strategik dan motivasi pelajar.

Kata kunci: *pembelajaran berasaskan projek, penglibatan pelajar*

INTRODUCTION

Project based learning is a complex task based on challenging questions or problems that involve students in design, problem solving, decision making or investigative activities. It gives students the opportunity to work relatively autonomously over extended periods of time and culminate in realistic products and presentations. John W. Thomas (2000) projected five features of Project Based Learning, they are; curriculum based, student driven, constructive investigations, autonomy and realism. Project Based Learning can be used as a method in teaching and learning theoretical subject such as History because students do not think this subject as relevant and engaging, thus they resist on learning and understanding the knowledge. (Brush & Saye, 2006). In addition, educators can organize teaching activities that can increase student engagement in different aspects to improve their skills, participation, emotional and performance. (Handlesman et al., 2005)

Student engagement is characterized by 4 criteria, namely responsible learning, strategic learning, collaborative and energized by learning (Learning Point Associates, 2004). But there are no in depth studies to investigate the impact of Project based learning to enhance student engagement particularly in these four aspects. Therefore, this study is conducted in an effort to enhance students' engagement in learning history in University. The two main questions are; how does project based learning affect the engagement of students in their learning process and how can a teacher use projects to maximize a student's engagement in learning.

This study focuses on the experience of implementing project based learning to support student engagement in learning History. It aims to answer the research questions of how project based learning can enhance student's engagement in the learning process, and to improve the teaching and learning experience. The main objectives are to determine the impact of project based learning on student engagement, and to improve the teaching and learning experience inside and outside the classroom. In this study, students were assigned to produce a video presentation. They were required to research the topic, select the appropriate information and facts, design and produce a video presentation and finally present it to the class. Producing a video was chosen as a project because studies suggest that students viewed working with technology as more engaging and entertaining (Heafner, 2004).

LITERATURE REVIEW

Students' engagement in the learning process

Newmann, Whealge, and Lamborn (1992) defined student engagement as a psychological and physical effort towards learning, understanding, and mastering knowledge, skills that academic work is intended to promote. It can also being refers to a student's need, willingness and compulsion to actively participate in the learning process. (Bomia, 1997) Student engagement can be examined by observing their level of participation in classroom activities, their enthusiasm and

interest, and the level of care shown in completing the tasks assigned to them. Twenty years of studies indicate that engagement and motivation lead to high achievement of the students. (Brewster & Fager, 2000).

According to the Northwest Regional Educational Laboratory, student engagement can be observed by using 4 criteria, namely responsible learning, strategic learning, collaborative and energized by learning. Responsible learning is the condition whereby students take charge of and regulate their own learning. Students know their own objectives, the standards and criteria of the evaluation, and they are responsible for monitoring progress towards achieving the goals of their learning. Strategic learning occurs when student continue to develop and refine the learning process and problem solving strategies. Engaged students can apply and transfer the information to construct the knowledge and to solve the problem creatively. (Learning Point Associates, 2004). In improving student engagement, instructors should encourage deep learning approach which develops students' thinking, problem solving skills and behavior (Ramsden, 2003).

Collaborative learning is the third characteristic of student engagement. Engaged students should be able to work collaboratively in a group and play their own role as group members. (Learning Point Associates, 2004). Tinto (1997) pointed out that the collaborative learning is one important factor that supports student engagement. By energized by learning, students find excitement in learning and are intrinsically motivated by their own interest and enjoyment in learning and they can also be motivated extrinsically by grades and competition. (Learning Point Associates, 2004). Miller (2011) described intrinsic motivation as a valuable means in promoting student engagement, therefore the learning activities should be designed to be intrinsically interesting to the students. A truly engaged learner is inspired by the joy of learning that keeps them persistent to accomplish the desired goals even in the face of difficulty (Schlechty, 2001). In contrast, students who rely solely on extrinsic motivation such as grades, stars, stickers or teachers' approval, understand and retain less and fail to produce long-lasting commitment towards learning (Brewster & Fager, 2000; Kohn, 1995; Lumsden, 1994; Strong, Silver, & Robinson 1995).

METHODOLOGY

This is an action research study based on both qualitative and quantitative method. In this study, students in Malaysian Studies class are required to produce a video on Malaysian history using their own concept and creativity. Students were divided into 5 groups; each group consisted of six members. They are given two and half months to complete the task. After submission of the video, students are required to present their work in the class.

Data is collected in a class of 30 students through observation, instructor's evaluation, questionnaires and focus group. Four sources of collecting data are used in this study to provide triangulation of data. The data is analysed based on the instructor's and students' perspectives. The first and second sources of collecting data are through the observation and instructor's evaluation. The observation starts from the first day of project briefing, follow by the consultation session and the class presentation. The data are recorded in the instructor's journal.

All students are given a 14-statements questionnaire to be answered. The questionnaire is constructed using a five-point Likert scale and analysis is carried out by determining the frequency and percentage of every question. 10 students are chosen randomly to share their opinions in the focus group session that is conducted after students completed the subject to avoid bias and student insecurity about giving their opinions.

FINDINGS AND ANALYSIS

Observation and Instructor's evaluation

The instructor commented on the observation and provided constructive evaluation of the video submitted by the students.

Group 1 the group members consistently reported the progress of the project and requested advice from the instructor. They followed the guidelines and dateline provided by the Instructor. They gathered information from the internet, books, brochures and the field trip. Their work was very detailed and well researched.

Group 2 did not consult the Instructor from time to time, but they were aware of the project's objectives and what they need to achieve in this project. The leader performed the role in managing the members and tasks. Group members collaborated well; they planned and executed their plans together. The sources of information for this group were mainly from the field visit, the internet and the main texts prescribed for the subject.

Group 3 conducted a field trip to gather information and pictures for their video. From the observation, this group did not plan their trip very well. They took videos and pictures without concentrating on their main purpose. They also gathered information from the internet and the main texts prescribed. The students seemed happy with their work but they could have carried out the project better if they had consulted the Instructor and planned what they needed to focus on during the trip.

Group 4 also went for a field trip to collect data for the project. After the instructor conducted the briefing, the group members were not excited about the project. Eventually, they were energized and motivated to complete their project after returning from the field trip. The collaboration between group members was greater after the trip which shows that the trip essentially increased their motivation, collaboration and teamwork.

Group 5 defined and allocated their roles in the first meeting. Two of the students did not show interest in carrying out the project. The two students committed a lot of disciplinary issues in other subjects as well. The other group members gave their commitment and worked as a team. Unfortunately, due to lack of planning, they submitted their video a day after the due date because of technical problem of the video. This problem could have been solved if they had followed the schedule and planning provided by the instructor. The facts and information provided were mainly from the internet. They could have executed it well if they had explored more information from different sources.

Feedback from the Students

Feedback from the students was collected from the questionnaires and focus group.

a. Responsible learning

Majority of the students strongly agreed and agreed with the statements (93.3% for statement 1, 80% statement 2, 93% for statement 3, 86.7% for statement 4 and 96.7% for statement 5). Data from the focus group showed that students gave full commitment to their project. They were aware of their responsibilities to consult the instructor about the project and benefited from the

consultation. Generally, it can be said that students were aware of their responsibilities in this project. Table 1 summarizes the responses to questionnaires on responsible learning.

Table 1: Summary of the responses to questionnaires on responsible learning.

Statements	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1. I know the objective of my group project.	12 (40%)	16 (53.3)	2 (6.7)	0 (0%)	0 (0%)
2. I discussed the progress of the project with the lecturer.	8 (26.7%)	16 (53.3)	6 (20%)	0 (0%)	0 (0%)
3. I am responsible about the progress and completion of the project.	11 (36.7%)	17 (56.7%	2 (6.7%)	0 (0%)	0 (0%)
4. I am aware of the standard and criteria for assessment of this project.	8 (26.7%)	18 (60%)	4 (13.3)	0 (0%)	0 (0%)
5. I am aware of the deadline for this project.	17 (56.7%)	12 (40%)	1 (3.3%)	0 (0%)	0 (0%)

b. Strategic Learning

Majority of the students "strongly agreed" and "agreed" with the statements relating to strategic learning (80% for statement 6, 93.3% for statement 7 and 86.7% for statement 8). Focus group interview indicated that students explored many types of sources to gather information for their project. Table 2 summarizes the responses to the questionnaire on strategic learning.

Table 2: Summary of the responses to questionnaires on strategic learning

Statements	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
6. My group explored many sources of information to complete this project.	14 (46.7%)	10 (33.3%)	5 (16.7%)	1 (3.3%)	0 (0%)
7. My group selected only the appropriate and accurate information to be included in our video.	15 (50%)	12 (43.3%)	2 (6.7%)	0 (0%)	0 (0%)
8. My group transferred the information into the video using our own style and creativity.	18 (60%)	8 (26.7%)	4 (13.3%)	0 (0%)	0 (0%)

c. Collaborative learning

Majority of the students strongly agreed and agreed with the statements for collaborative learning (73% for statement 9, 86.7% for statement 10 and 73.3% for statement 11). The number of students who chose neutral was higher compared to questions related to responsible and strategic learning. Data from the focus group showed that one of the challenges working in the group was to get full commitment from everyone in the group. However not all the groups faced this problem as some of the groups were satisfied with the commitment of their group members. Table 3 summarizes the responses to the questionnaire of collaborative learning.

Table 3: Summary of the responses to questionnaires on collaborative learning

Statements	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
9. Everyone in the group worked together to complete this project.	7 (23%)	15 (50%)	7 (23.3%)	1 (3.3%)	0) (0%
10. Tasks and roles were clearly defined in my group.	11 (36.7%)	15 (50%)	4 (13.3%)	0 (0%)	0 (0%)
11. I contributed my idea and skills in planning, implementation and group evaluation of this project.	9 (30%)	13 (43.%)	8 (26.7%)	0 (0%)	0 (0%)

d. Energised by learning

None of the students disagreed or strongly disagreed with the statements about students energized by learning. 86.7% respondents "strongly agreed" and "agreed" with the statement 12 and 13, and 90% "strongly agreed" and "agreed" to statement 14. In focus group all of the students said that they wanted to complete the project because they enjoyed the video project and to get a good mark on it. Table 4 summarizes the responses to questionnaires on energized by learning.

Statements	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
12. I am motivated to complete the project because I want to achieve good mark on it.	11 (36.7%)	15 (50%)	4 (13.3%)	0 (0%)	0 (0%)
13. I want my project to be one of the best projects in my class.	12 (40%)	14 (46.7%)	4 (13.3%)	0 (0%)	0 (0%)
14. I take pride in my project	12 (40%)	15 (50%)	3 (10%)	0 (0%)	0 (0%)

Table 4: Summary of The responses to questionnaires on energized by learning.

DISCUSSION

The data collected from the observation, instructor's evaluation, students' feedback from questionnaires and focus group showed that students were engaged physically and psychologically while doing their project. The findings from questionnaires indicated the majority of students strongly agreed and agreed with the statements in the questionnaires. This data confirmed the research done by Tretten and Zachariou (1996) which reported that Project based learning had many positive impacts towards the responsibility of learning and strengthening their thinking skills and productivity. According to Thomas (2000) Project based learning could increase the motivation of students. In this study eventually show the same findings where the less motivated students changed their attitude after they were involved in the project based learning which was assigned to them.

Research done by Karjcik in University of Michigan described the collaboration as one of the challenging parts of the Project based learning.(Thomas, 2000).The findings of this study demonstrate that Project based learning could increase collaborative learning, but it is the most complex element to manage in Project based learning because students have different characteristics, variables and learning styles. In technological aspect, research conducted by Edelson, Gordon, and Pea (1999) reported that students were disengaged because they were not able to use the technology to carry out their project (Thomas, 2000). However the findings of this study indicated that students were able to explore the new knowledge and skills while doing their project. They learnt to compose the video with relevant information even though they had no prior knowledge in producing the video before.

Recommendation

The concern of this study is about the uncommitted students who tried to get marks of their group work without giving full commitment. In this situation, students' were recommended to be assessed by using 2 methods; individual and group assessment. The individual assessment could be based on their commitments, collaboration and students' journals and the group assessment could be evaluated based on the end project completed by the group.

Second recommendation is providing the students with the opportunity to submit an anonymous assessment on the participation of their group members. If majority of group members indicate that a particular student does not give cooperation, thus that student deserves lower marks compared to the rest of group members.(Davis, 1993).Thirdly, students' journals and logs can assist students and teachers to assess and reflect on their planning and implementation of the project. Lastly,the instructor may also develop self-evaluation questionnaire to guide students' reflections. (Baden and Major, 2004). Some questions can be given to the students to answer as a reflective process for example; what might I do to improve the project? (Railsback, 2002).

CONCLUSION

Data collected in this study demonstrates that project based learning is a comprehensive approach to enhance student's engagement. The challenges of implementing project based learning such as uncommitted students and time consuming should not be the excuses of not implementing project based learning. Instructors can minimize the difficulties, if they are equipped with the necessary knowledge and skills from the planning to the execution of the project. Good Instructor should be

a good learner and constantly improving teaching and learning practices inside or outside the classroom. Nevertheless, it is also important for the Instructor to pay attention to the diversity of student's learning styles. Future research can investigate on the impact of Project based learning on the diversity of student's learning styles and individual differences.

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