

# E-PROJECT BASED LEARNING USING ANIMATION IN PRIMARY SCHOOLS

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## Abstract

This research paper shares a case study of a group of primary school students and their involvement in eProjBL. eProjBL was designed to capitalize both the advantages of Project-based Learning (PBL) and e-Learning within a blended learning environment to enhance the learning process of a group of primary school students in a particular topic in science. PBL is the one of conceptual framework of learning model from the constructivist theory and it is "a model for classroom activity that shifts away from the usual classroom practices of short, isolated, teacher-centered lessons". PBL also recognizes the fact that active learners learn better in highly interactive environment. By marrying technology into the PBL, eProjBL was used as a catalyst to motivate the students to become explorers and researchers. The primary students were given the eProjBL content with an animation task that needs to be completed by the end of the project. The finished animation projects were evaluated by their teachers using the rubrics metric table of the project. The main purpose of this research study was to investigate the student's perception on the eProjBL content and their engagement in this new blended learning environment utilizing the creation of an animation project. The students' perception on this blended learning environment were found to be positive, stating that they had fun, felt good and gained new knowledge. Majority of the students expressed that they would like to have this type of activity in their future classes as well as in other subjects. The findings of this study also shows that students were engaged in the eProjBL animation activity with development and enhancement of new skills such as creativity, computer literacy, team work collaboration, designing, researching and writing.

Keywords: eProject-based Learning, Project-based Learning, Blended Learning, Primary School.

## 1 INTRODUCTION AND BACKGROUND

The growth of information technology (IT) has increased the usage of multimedia in the community. Multimedia is a combination of digital media elements which, includes narration and sound effect, animation and simulation which can help to enhance users' learning practice (Choo, 1994). In Malaysia, multimedia technology is growing in popularity with the launching of Multimedia Super Corridor (MSC) project. More people are now aware of its potential and multimedia is being used increasingly to provide computer-based instruction (Hwa & Norhayati, 2009). A number of research which is based on the combination of multimedia and education had been produced. This area is often called education technology.

The Malaysian government had implemented the element of Project-based Learning in school which is known as PBL (Roslan & Mokhtar, 2009). The advantages of Project-based Learning (PBL) are acknowledged and have since provided high-quality consequences to the Malaysian education. Recognizing the fact that active learners learn better in highly interactive environment such as interactive lectures, it "can be a staple component within an active learning pedagogy" (Moore, Fowler, & Watson, 2007). Therefore, eProject based learning (eProjBL) was designed to incorporate the e-Learning pedagogy with PBL to maximize the output of the learning process within a blended learning environment. The activity of creating the animation project is one of ways to make the student to become creative and innovative, computer literate and to cultivate organizing skills as well as

increasing interactivity in class. The students used their imagination to create their own design of characters and objects (Khuchinda, 2008).

Blended learning is the integration of offline and online learning. Blended learning can be defined as "the integrated combination of traditional learning with web-based online approaches, the combination of media and tools deployed in an e-learning environment and the combination of a number of pedagogical approaches, irrespective of the learning technology used in each case" (Hisham, Che, & Abu Bakar, 2006, p. 11).

It is said that "a good project based lesson should not ignore the curriculum" (Jurica, n.d., p. 1). The combination between curriculum and project that can make the student become motivated. The animation project can be the one of the motivational tool to enhance their awareness to the learning object (Khuchinda, 2008). For example, Khuchinda (2008) found that the students involved in the animation project to create Learning Object (LO) for English were motivated with the activities that had been applied to complete the task.

## **1.1 Problem Statement**

In Malaysia, the PBL in school (primary school) is still in the preliminary stage of implementation since the Malaysian's government introduces it as one of the flagship of Multimedia Super Corridor (MSC) project. It was noted that "multimedia technology is growing in popularity with the launching" of this project (Hwa & Norhayati, 2009, p. 247). The eProjBL is the integration of blended learning with the task of creating an animation project which offers significant benefits to students such as motivation, creativity, research and problem-solving skills as well as real-life learning in school. Having said that, the implementation of the eProjBL in the school may face some challenging issues such as connection, content, and confident (Ponter & Brown, 2007). The connection includes the use of the facilities, hardware, and speed of broadband which is needed to implement eProjBL. The content involves what is suitable or appropriate activity for eProjBL. The confident consists of the skills or pre-knowledge of the students to handle the eProjBL activities.

### **1.1.1 Objective and Research Question**

This research study utilizes the case study approach. The students were given the eProjBL content with an animation task that needs to be completed by the end of the project. The finished animation projects were evaluated by their teachers using the rubrics metric table of the project. The main objective of this research project is to investigate the student's perception of eProjBL using the animation-based element in school while the main research question that will be addressed in this paper is:

What are the student's perceptions on the use of eProjBL in their lesson?

### **1.1.2 Significance of the Study**

Transformation in Malaysian's education will need effort, creativity and motivation from the teacher. The research that had been conducted will have great impact and significance to the Terengganu's state government and the federal state of Malaysia on the usage of mini-notebook (net-book) in the blended learning environment. There also appears three perceived benefits from conducting a study which sought on how the student and teacher were transformed in an effective learning environment. These were as follows:

- Student had been encouraged to create the animation project which might improve the skill that associated with creative thinking, computer literacy, collaboration, designing, and writing.
- The study provides the other method or technique of teaching for the teacher that can be applied in the new blended learning environment.
- The study provides some evidence that support the usage of innovative technique that helps to improve the student's engagement and their motivation.

In addition to this, the study has contributed the literature to teacher, researcher or educator as the guideline to support their research. The study provides data that can support further research in the future.

## 2 METHODOLOGY

The purpose of the study is to investigate the student's perception on creating the animation project by following the Project-based Learning model in a blended learning environment. It is also called E-Project-based Learning (eProjBL). It is the combination of the Project-based learning (animation project) and blended learning in the classroom environment.

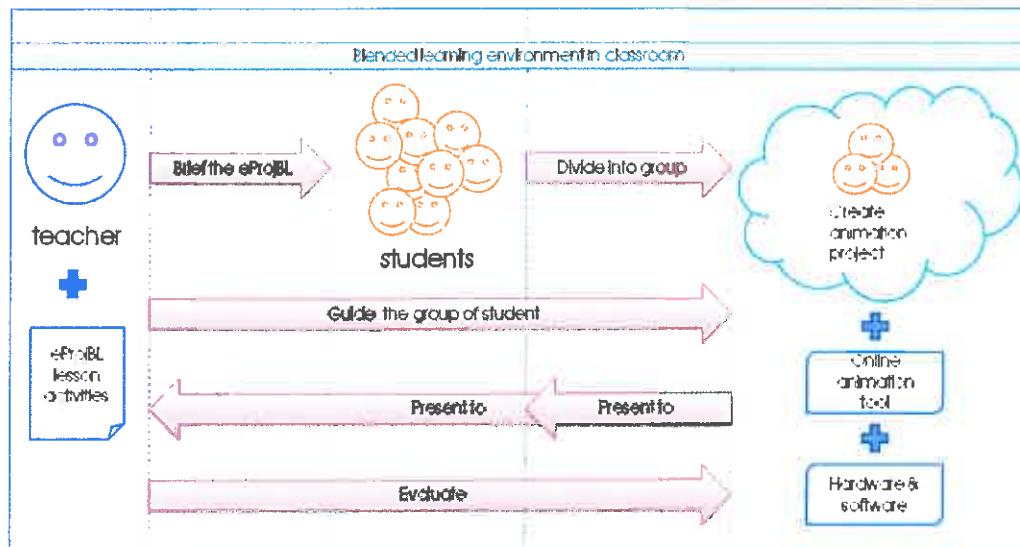


Figure 1: Framework of eProjBL

Based on the framework above, the framework had been created based on the literature review in several previous researches. The model is the combination of the project-based learning and blended learning in the classroom. The teacher provided the lesson plan of eProjBL and starts by briefing the students about the activities. The students were divided into small groups and the animation project and task were explained and were given to them. They were to apply the animation tool and blended tool to gather the information and at the end of the project, they were expected present it to the teacher and students. The teachers were the main assessor and marks are based on the student presentation, the animation created as well as observation in the class while the project was in progress.

### 2.1 Instrument

At the end of testing, questionnaires were distributed to collect feedbacks on students' engagement as well as to find out about the students' perceptions on eProjBL approach in their learning. Kemper & Leung (2009) conducted a research on how to get the students' perception. Therefore the validated and verification of question which had been answered was reliable. Questionnaires were distributed to thirty students and twenty eight were returned

During the testing session with eProjBL approach in the classroom, teachers as the observer were given the authority to give the mark according to the rubric criteria. The video recording was included in the testing session to record the students' activity and process when applying the eProjBL approach. The process of mark collection followed the rubric maker for online website called Rubistar (4Teacher.org, 2008). The selected rubric element had been chosen to apply in the testing session. This rubric has been used to record the students' performance.

## 3 RESULTS

Table 1 and Table 2 reveals the results of the students' engagement as well as their perception on the use of eProjBL as an approach to their learning.

Table 1: Descriptive Statistics of Students' Engagement

	N	Minimum	Maximum	Mean	Std. Deviation
I have developed my ability to make judgments about alternative perspectives.	28	3	5	4.50	.577
I have become more willing to consider different points of view.	28	2	5	4.07	.766
I have been encouraged to use my own initiative.	28	1	5	3.07	1.331
I have been challenged to come up with new ideas.	28	1	5	4.21	1.031
I feel that I can take responsibility for my own learning.	28	2	5	4.29	.810
I have become more confident of my ability to pursue further learning.	28	4	5	4.68	.476
During my time at previous class, I have learnt how to be more adaptable.	28	2	5	3.96	.999
I have become more willing to change my views and accept new ideas.	28	2	5	4.36	.780
I have improved my ability to use knowledge to solve problems in my field of study.	28	2	5	4.25	.752
I am able to bring information and different ideas together to solve problems.	28	2	5	4.43	.742
I have developed my ability to communicate effectively with member's group.	28	2	5	4.39	.832
In my time at previous class I have improved my ability to convey ideas.	28	1	4	3.14	.932
I have learnt to become an effective team or group member.	28	1	5	4.57	.836
I feel confident in dealing with a wide range of people.	28	1	5	3.54	1.261
I feel confident in using computer applications when necessary.	28	3	5	4.54	.693
I have learnt more about using computers for presenting information.	28	4	5	4.93	.262
Our teacher uses a variety of teaching methods.	28	3	5	4.54	.576
Students are given the chance to participate in classes.	28	2	5	4.07	.979
The teacher tries hard to help us understand the course material.	28	4	5	4.93	.262

The lesson plan helps students understand the content.	28	4	5	4.79	.418
When I have difficulty with learning materials, I find the explanations provided by the teaching staff useful.	28	4	5	4.96	.189
There is sufficient feedback on activities and assignments to ensure that we learn from the work we do.	28	3	5	4.46	.637
Class uses a variety of assessment methods.	28	2	5	4.50	.694
To do well in assessment in this class you need to have good analytical skills.	28	3	5	4.54	.576
The assessment tested our understanding of key concepts in this class.	28	4	5	4.68	.476
The communication between teacher and students is good.	28	4	5	4.75	.441
I find teacher helpful when asked questions.	28	4	5	4.93	.262
I manage to complete the requirements of the class activity without feeling unduly stressed.	28	1	5	4.04	1.036
The amount of work we are expected to do is quite reasonable.	28	3	5	4.50	.577
I feel a strong sense of belonging to my class group.	28	1	5	4.36	1.062
I frequently work together with others in my classes.	28	3	5	4.43	.573
I have frequently discussed ideas from activities with other students' out-of-class.	28	2	5	4.04	.881
I have found that discussing course material with other students outside classes has helped me to reach a better understanding of the material.	28	3	5	4.36	.559
I can see how activities fitted together with my subject.	28	1	5	4.75	.799
The subject of study for my major was well integrated.	28	1	5	4.71	.810

The students were also asked several questions based on their experience after the eProjBL testing session (Please refer to Table 2).

Table 2: Students' perception on eProjBL

Student	What do you feel about the activity?	Do you have any experience with this type of activity with any other subject?	Do you want to have this type of activity in the future?	What are the challenges of using e project-based learning?	What are the benefits of this activity?
1	fun	no	yes	less idea	more understanding about science
2	feel good and have cooperation	no	yes	less time and internet problem	gain new knowledge
3	feel good	no	yes	not enough time and internet problem	gain different idea and new knowledge
4	feel good	no	yes	internet problem	gain knowledge
5	feel good and gain knowledge	no	yes	internet problem	gain knowledge
6	feel good	no	yes	no internet	can gain more knowledge
7	feel good because can operation with member's project	no	yes and hope this project being done in the future	not enough time	can gain knowledge about science and computer's skills
8	feel good	no	yes	internet problem	can gain knowledge
9	gain knowledge and feel good	no	yes	internet low	gain knowledge
10	feel good	no	yes	internet problem	can collect more information and gain knowledge
11	gain knowledge	no	yes	explore internet	gain knowledge about sciences
12	feel good	no	yes	computer's problems	increase relationship between members and teachers and gain knowledge about sciences

13	Feel good to apply the activity.	I have from my previous experiences.	I interested to use it.	internet connection have some problem	I have gained the new knowledge in learning.
14	gain knowledge	no	yes	internet problem	more understanding in the class
15	feel good	no	yes	internet problem	gain knowledge
16	feel good because gain knowledge	no	yes	internet slow	gain more knowledge
17	feel good	no	yes	internet problem	gain more knowledge
18	feel good and fun	no	interesting because not involved project like this before	internet problem	can gain knowledge
19	feel good	no	yes	conflicts members, less cooperation, internet problems	gain knowledge
20	Absent				
21	feel good and can cooperate each others	yes	yes	internet problem	understanding this subject more detail
22	i feel good when doing that project because I can learn about cooperation in group	first time I felt this experience	very interesting to doing this project in the future	got obstacle that is internet problem	more understanding about project that have been done
23	fun	no	yes	overload of idea from member's project and internet problem	can gain knowledge about sciences and computer skills
24	feel good	no	yes	no internet	idea use all members
25	feel good	no	yes	not enough time	can learn new something
26	Absent				

27	fun	no	yes	internet problem	can learn more about sciences
28	feel good	no	yes	no Internet	understanding what that learn
29	little stress because little problem occur	no	yes	internet problem	gain knowledge about sciences
30	feel confidence	no	yes	internet problem	gain knowledge in the future

#### 4 FINDINGS AND DISCUSSION

There are five common questions that had been asked. According to the table 1 and 2, the students felt good to be involved in the project. Previously, majority of students did not have such experience with this type of activity. After they gained the experience, they felt confident and they prefer to have this form of group activities in the future. Some challenges that they face were raised such as the internet problem, computer problem and not enough time. Among the benefits of eProjBL which the students expressed was that the project helped them to gain new knowledge, enhanced their computer skill, and supported in their ease of understanding of the topic at hand.

When asked "What do you feel about the activity?", majority of the students mentioned that they felt good, had fun and gain new knowledge. They also mentioned that the activities had the collaboration element that applies members' cooperation.

Here are some examples of responses from the students:

Student 22: *"i feel good when doing that project because I can learn about cooperation in group"*

However, they also comment that the activity made them stressful because there were some problems that occur during the activity session.

Student 29: *"little stress because little problem occur"*

When asked "Do you have any experience with this type of activity with any other subject?" most students stated that they did not have such experiences with the same approach in any other subject. Only one student mentioned that she/he had applied this approach but not within the blended learning environment in the classroom.

When asked "Do you want to have this type of activity in the future?" All of the students agreed that they were keen to have this activity in the future because they felt the activities are more enjoyable as well as a new style of learning.

Here are some of the reasons:

Student 18: *" interesting because not involved project like this before"*

Student 22: *" very interesting to doing this project in the future "*

The students commented that they would want to apply it to other subjects and were excited about it.

#### 5 CONCLUSION

In conclusion, there is a need to go in deeply to focus on the learning and teaching methods that can combine and match with blended learning environment. The use of animation projects as a tool to support the engagement, motivation and creativity in the learning process can enhance the students'



skills as shown in the findings of this research project. Teachers must become more creative when adapting the new approach in their classrooms. Therefore, teachers need to learn more and do some research to collect useful resources in the classroom. Teachers should not focus solely on the curriculum in their teaching but know how to improve and become more innovative to make the learning become more enjoyable and engaging. The study shown that 1) blended learning in classroom can be a positive approach of learning, 2) the implantation of project based learning pedagogy supports practical learning and 3) animation is one of tools that can be used to promote motivation, interactivity and creativity among the students..

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## REFERENCES

- [1] 4Teacher.org. (2008). RubiStar. Retrieved July, 20, 2009, from [http://rubistar.4teachers.org/index.php?screen=NewRubric&section\\_id=3&PHPSESSID=0c6e004c79122742782462a1337d6455#03](http://rubistar.4teachers.org/index.php?screen=NewRubric&section_id=3&PHPSESSID=0c6e004c79122742782462a1337d6455#03)
- [2] Choo, K. C. (1994, 24 August 2002). Interactive Multimedia for Teaching, Learning and Presentations. *Proceedings of the Second International Interactive Multimedia Symposium* Retrieved July 28, 2009, from <http://cleo.murdoch.edu.au/gen/aset/confs/iims/94/km/khoo.html>
- [3] Hisham, D., Che, S. M., & Abu Bakar, H. (2006). Moving Forward with Blended Learning (BL) as a Pedagogical Alternative to Traditional Classroom Learning. *Malaysian Online Journal of Instructional Technology (MOJIT)*, 3(1), pp. 11-18.
- [4] Hwa, S. P., & Northayati, A. M. (2009). Citra: Interactive multimedia package in moral education for primary school children. Retrieved January, 6, 2009, from <http://ieeexplore.ieee.org/iel5/9709/30647/01414577.pdf>
- [5] Jurica, J. (n.d.). Project Based Learning, Students with Learning Disabilities and Teaching Computer Skills Through Sports. Retrieved July 6, 2009, from [http://www.edilib.org/d/19770/proceeding\\_19770.pdf](http://www.edilib.org/d/19770/proceeding_19770.pdf)
- [6] Kember, D., & Leung, D. Y. P. (2009). Development of a questionnaire for assessing students' perceptions of the teaching and learning environment and its use in quality assurance. *Learning Environ Res*, 12, 15.
- [7] Khuchinda, P. T. (2008). Animation Project Competition: Creating Learning Objects Watphrathatwittaya School, Nong Khai, Thailand. Retrieved January, 1, 2010, from <http://images.opencharm.multiply.multiplycontent.com/attachment/0/SUI5CgoKCDAAAGhHdfM1/icer2009-tharabun.doc?nmid=149199845>
- [8] Moore, A. H., Fowler, S. B., & Watson, C. E. (2007). EDUCAUSE Review. *Active Learning and Technology: Designing Change for Faculty, Students, and Institutions*, 42(5), 42-61
- [9] Ponter, D., & Brown, L. (2007). Creating A Digital New Zealand: New Zealand's Digital Content Strategy Retrieved July 6, 2009, from <http://www.digitalstrategy.govt.nz>.
- [10] Roslan, H., & Mokhtar, A. M. D. (2009). Implementing Outcome Based Education Using Project Based Learning at University of Malaya. *European Journal of Scientific Research*, 26(1), pp.80-86.