

# Need Analysis of Web Model Based On Project Based Learning to Enhancing History Knowledge among Form One Students

Siva sankar R.Mahalingam, Ahmad Johari Sihes, Sivasangary Raveendran

**Abstract**—History subject consists of many facts, concepts and difficult to understand. This has become a cause for many students to fail in History subject. Project-based learning (PBL) is an appropriate method to improve the knowledge of History among students. Project-based learning (PBL) is an approach based on constructivist learning theory, learning through experience and constructionism theory. Although the PBL has several advantages, there are still many deficiencies in implementation. Lack of PBL can be overcome by the use of technology. The use of effective technology as an integrated part of the pedagogical process is found to help students who are less skilled and build strong knowledge in project-based learning environments. Modern digital technology is the ultimate catalyst for students who are comfortable engaging in the design and development of their projects as they can document the whole process and easily share their creations in digital format. There are no clear guidance on the use of web model based on project based learning to enhancing History knowledge among students. Thus, in this research, the issues in web model based on project based learning development and strategies are being investigated. The research method focuses on following stages: requirement analysis, design and development including alpha testing by validation from expert and beta testing which is user acceptances test to support efficiency and effectiveness of the courseware for further improvement. The result from the alpha and beta testing indicates a positive feedback on this research.

**Keywords:** History, Knowledge, Project Based Learning, Web Model

## I. INTRODUCTION

The standard curriculum secondary school (KSSM) was introduced in 2017 to provide an understanding of the community, Malaysia and the world. It is an effort to nurture and strengthen our identity and create a spirit of loyalty among students (Shaareny 2016). According to the Ministry Of Education (2016) students must be exposed to the knowledge of the outside world as they are always competing globally. However some studies show that History knowledge is less among secondary school students. In the aspect of education, the process of knowledge building is very important to see the level of mastery and involvement of each student. But Historical subjects are less likely to be at the heart of the students as they feel bored and are said to be

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overly crowded with the facts (Zunaida Zakaria et.al, 2015).

According to Voet (2018) project based learning (PBP) is an ideal method for mastering history subjects easily and students appreciate every fact of the concept and events contained in the KSSM history. Sharipah Aini (2015) mentioned that history teachers can make history subjects as the subject of interest to all students by using model web based on projects based learning. According to Ahmat Adam (2016) teaching and learning should include investigative, reflective thinking and discovery. Teachers can plan historical processes based on their knowledge and attitude so that they can live real life based on project based learning processes (Shaareny, 2016). A student may have the opportunity to understand and present situations, things, events, concepts, principles with their own research in History if they are used in History learning. C.L.Chiang (2016) study shows that PBP is very effective in helping students with learning disabilities. PBP can be adjusted according to subject and student levels to improve knowledge.

The use of PBP is less than the History teacher because it is less skillful in implementing the elements contained in PBP. In addition, the six elements contained in the PBP should also be modified to have a great impact on the achievement and involvement of students in the History subject. Outside of the country, the PBP process has 8 elements and has a great impact to increase the knowledge and the spirit of inquiry among students (Voet, 2016). Additionally, the process of building History knowledge through a web-based learning approach is a worthwhile aspect of education (Rohani, 2017). The PBP approach based on web model aims to see the achievement and involvement of students in learning History as well as improving knowledge. Web model based on project-based learning is believed to help form 1 student to improve history knowledge. not underline.

## II. LITERATURE REVIEW

According to Sharipah Aini et al., (2015) the subjects of History contain many abstract facts, concepts, abstract ideas. This causes many students to fail in History (Arbiyah et al., 2016). In this case, Mansor (2015) notes that the History of Malaysia subject focuses more on aspects of the course and lessens into any aspect of teaching and learning. This situation causes students to lose interest and to make passive students in the classroom.



This problem also affects students to understand the facts contained in the Secondary Standard Curriculum textbook. According to Anuar Ahmad (2017), the students' knowledge is lacking in History subjects due to the learning method.

Students often memorize and recall a fact, concept or event contained in the History curriculum. Azalina (2013) mentioned that students are arguing that learning the History curriculum that contains Western History, European History and World History does not affect their own development. The students achievement in history subject is very low (Affan Budi Sentosa, 2014). The data collected in the District of Johor Bahru shows that the percentage of achievement in Form History 1 decreased for 2017 to 2018.

**Table 1: Form 1 Students Achievement in History Subject on 2017 and 2018**

Schools	Pass (%) 2017	Excellent (%) 2017	Pass (%) 2018	Excellent (%) 2018
School A	67.39	4.12	67.37	5.26
School B	79.58	2.12	78.43	1.47
School C	88.17	1.09	86.29	0.00
School D	59.32	0.93	57.52	0.88
School E	61.17	3.02	60.15	3.76
School F	67.73	8.07	68.99	8.00

Source : Education Sector,  
Johor State Education Department, 2018

In 2017 and 2018 the number of percentages failed to increase and this has increased the average grade of History subjects. Within 2 years of passage in History subjects showed a decline. So students do not focus when teachers teach in the classroom. According to Anuar Ahmad (2017) the same situation happened abroad, namely Australia, Canada, Sweden and Spain. These countries also prioritize the content of European History, World History in the curriculum filling of Historical subjects. So Australian and Canadian students have less knowledge in National history and lack of enthusiasm for studying History subjects.

The use of the appropriate method for teaching History will shape the learning environment that is very conducive, interesting and beneficial to the students (Ramakrisnan et al., 2013). While there are many methods in History, inquiry is a very appropriate teaching method and creates a sense of learning among students (Voet.M, 2017). However, the process of using the existing inquiry model of the existing findings for the History subject is not specified in detail and the guide does not provide a clear overview of its use in History (Voet, 2017). Caroline (2017) says that discovery inquiry is a teaching practice where students explore content by disguising, investigating, and responding to questions. Sharipah's study (2015) shows that the inquiry is not fully implemented in teaching and learning. This is because there are some drawbacks in the model of inquiry method for the History subject (Lazonder, 2016). According to Kelly (2018) educators do not follow the model's sequence during Teaching and Learning history. This statement is supported by Cherif (2013) which states that teachers and students are not exposed to the use of an inquiry model on a regular basis. Additionally, Historical teachers argue that the use of inquiry in History subjects takes quite a while and this will slow down

the teachers to complete the syllabus (Achinstein, 2015). Anuar Ahmad's study (2017) shows that Historical teachers argue that the process of solving problems using the inquiry process takes a long time and students can not find a solution in the teaching and learning time. Mansor (2015) notes that due to time constraints, historical teachers do not design learning activities that integrate the use of inquiries as the process is prolonged. Historical teachers are also looking for an easy solution and making learning activities easy to handle such as finding information based on the use of textbooks (Voet, 2017).

Studies show that project-based learning strategies will encourage in-depth learning (KPM, 2016). According to project-based learning is a teaching approach that gives students the opportunity to investigate complex questions and problems faced by teachers (Siti Aminah, 2016). Therefore, there are many problems in project-based learning (Ong Eng Tek, 2016). According to Holmes (2016) six elites contained in the PBP have some drawbacks to use in History teaching. The Shaareny study (2016) concludes that the History teachers form non-provocative questions. Questions asked in History teaching are also not open and do not create enthusiasm for students to answer. This statement is supported by Voet (2018) stating that the question is also not relevant to the material that the student should study. Sometimes projects are also determined by teachers in the classroom (Atadero, 2015). So students feel depressed and uncomfortable while making the project. During the implementation of PBL in the classroom the students were less exposed to 21st century skills as teachers thought that the activities of the 21st century were meaningless to the students (Ong Eng Tek, 2016). Yahya Othman (2014) notes that in the world of undergraduates students are given the opportunity to provide feedback during the classroom-based learning. But students are less guided to make a presentation on their results (Holmes, 2016). PBL privileges and inquiries are the final product construction (Chee Hoe Ng, 2018) representing students' understanding, knowledge, and attitude on issues under investigation. Students will also dare to present their project results.

Habok (2015) of the last PBL results comes in the form of 3D, models, materials, and folio. The results of the last project built by the students as such are difficult to share with other classmates or other schools. This is because they need to be kept in a safe place and should also be kept. Students are less likely to use these materials to share their ideas because they are difficult to move from place to place (Sabilan, S., Ishak, M.F., & Din & Nasirudin, 2014). So to solve this problem, web models have been introduced and are often used overseas. Students' motivational attitude has also increased the effect of using web models in PBL (Boubouka, M. and Papanikolaou, K. A. 2013). Based on the Spiritual (2017) modern digital technology is the ultimate catalyst for students who are comfortable engaging in designing and developing their projects as they can document the whole process and easily share their creation in digital format.



### III. PURPOSE OF STUDY

History subjects must be learned and graduated by all high school students. The Ministry of Education Malaysia has introduced the Secondary School Standard Curriculum (KSSM) which contains 1 theme ie 10 chapters on Form 1. According to Azalina Abdul Wahap (2013), History subjects provide understanding about society, country and world to students. But student achievement in history is very low (Affan Budi Sentosa, 2014). According to Anuar Ahmad (2017), the students' knowledge is lacking in History subjects due to the learning method. Students often memorize and recall a fact, concept or event contained in the History curriculum. Therefore, the main focus of this study is to identify the incomprehensible chapters of form one pupils, design and develop web-based project-based learning models by integrating John Dewey's model (2016), Kath Murdoch's (2007) inquiry model, Addie's capital 1987) and Alavi's knowledge management process model (1997). Lastly, alpha and beta testing are conducted to support the suitability and acceptance of a web-based learning based project model. This paper discusses the initial stage of the project such as analysis, design and development and testing phase. The evaluation areas that focus on performance will be discussed in the future.

### IV. METHOD

The purpose of this study is to increase the knowledge of History among the students of form one. The researchers conducted screening tests to 60 students categorized as Form 1 students in two secondary schools from Johor, Malaysia to identify the level of historical knowledge, achievement and involvement. Screening tests were conducted in two secondary schools. Teachers can identify the subjects that students are weak and lacking in knowledge. Inspection tests have been verified by content experts before implementation. This examination test was conducted to generally examine the level of historical knowledge among Form 1 students. Thus, screening tests were conducted to diagnose historical knowledge among students.

The examination examinations contain 3 parts as determined by the Malaysian Examination Board. This test is tailored to the Screening Test. 8 chapters were tested by constructing 20 objective questions, 4 structural questions and two essay questions. Students are responsible for all divisions. Students must get 60 marks. If less than 60 scores, students will be categorized as less knowledgeable students in mastering History content. According to Ramakishnan (2013), diagnostic tests need to be conducted to identify the causes of students' failure to master the historical facts contained in the Curriculum and Assessment Standard Documents (DSKP and specific groups according to the capabilities and difficulties they face.)

The diagnostic test results also help to design specific content in the web model for individuals or groups more precise and systematic according to the student's level. KPM (2016), students need to master all the chapters contained in DSKP form 1. In that regard, researchers provide diagnostic tests that examine three sections. Subsequently, researchers collect a variety of information related to student difficulties

to enhance History knowledge before designing and developing a project-driven web based project. Web models are the primary catalyst for students who are comfortable engaging in designing and developing their projects as they can document the whole process and easily share their creation in digital format (Patton, 2012). Researchers have developed a guide to using web models on a regular basis. During the design and development phase, the researcher used 8 elemental learning based on Jown Dewey (2016) and Kath Murdoch's inquiry model (2007). Finally, project-based web-based learning models are assessed by adapting alpha tests, beta testing, and user accept tests to support efficiency and effectiveness for further improvements.

### V. RESULTS AND DISCUSSION

#### A. Requirement Analysis

A total of 60 form 1 students answered the screening test. The initial test results found that the number of students facing difficulties in history subject was different. Table 1 shows the number of students and their difficulties in history subject by topic.

**TABLE 1 : Number Of Students And Their Difficulties In Form 1 Topics.**

Topics	Number of students master the topic	Percentage of numerate d (%)	Number of students yet master the topics	Percentage of innumerate (%)
Mengenal Sejarah	52	87	8	13
Zaman Air Batu	52	87	8	13
Zaman Prasejarah	50	83	10	17
Mengenal Tamadun	48	80	12	20
Tamadun Awal Manusia	49	82	11	18
Peningkatan Tamadun Yunani dan Rom	24	40	36	60
Peningkatan Tamadun India dan China	48	80	12	20
Tamadun Islam dan Sumbangan	52	87	8	13

The results of this screening test show that many students are still failing to master historical facts and this has caused their level of historical knowledge to be relatively low. According to Melisa (2018), the first theme of the theme is one of the most important and fundamental to understanding the chronology of the History subject.





There are 60% of students who are unable to master the sixth topic of increasing Greek and Roman civilization. So these students will face problems in the history subject when in the form of two. Thus researchers conclude that the achievement in the sixth topic in the form of one is very meaningful to enhance the knowledge of History. This examination test allows researchers to identify difficult topics in Form 1 history to continuously review specific disabilities in their respective learning topics. Researchers have undergone another measure known as a diagnostic test to detect the weaknesses in detail faced by students in the sixth topic. Researchers selected 36 out of 60 students who did not master the topic of Form 1 history in screening tests for diagnostic tests. Table 2 shows the number of pupils and difficult sub-topics in the topic six.

**TABLE 2: Number of Students and difficulties based on sub topic in topic six**

Topic	Sub-topic	Mastered	(%)	Not yet mastered	(%)
6	6.1 Tamadun Yunani	12	34	24	66
	6.2 Peningkatan Pemerintahan dan Pentadbiran Tamadun Yunani	8	22	28	78
	6.3 Tamadun Rom	10	28	26	72
	6.4 Peningkatan Seni Bina dalam Tamadun Rom	8	22	28	78

Researchers found that 66% of the students still did not dominate the sub topic of greek civilization and 78% of the students did not master the sub topic of government administration and administration of civilization. In addition, 72% of students do not master the third sub topic of rom civilization. While 78% of students do not master the sub topic of architectural improvement in rom civilization. A total of 74% of students do not master the facts contained in chapter six. Researchers can summarize this problem as the primary cause of student's historical knowledge to be at a low level. So researchers want to build a project-based learning web based model to enhance the history of form 1.

## VI. CONCLUSION

The paper discusses on requirement analysis and development of web model based on project based learning (PBL) to enhancing history knowledge among form one students. The web model based on project based learning will increase the number of student participation in the learning of History subjects. Therefore, it will lead to a better understanding of the learning topic. Web model based on project based learning create more enjoyable learning and enable students to understand the content of knowledge by keeping their attention on learning. Overall theoretical

framework is suitable framework for designing a web model based on project based learning as a historical learning material for Form 1 students because it projects better results as discussed above and can meet the needs of Form 1 students in historical learning points.

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