Animation as Learning Aid in History Subject for Form One Students

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ABSTRACT

The education system in Malaysia has changed rapidly over the past few years and the method of learning for history subject should reflect these changes. Students will enjoy and comprehend what they learn when they understand the contents and contexts of a topic. History refers to previous events in time that have occurred. In order to understand the past, students must recreate the situation that has occurred; if only they could travel back in time to witness the events first-hand. Through that approach, they are able to absorb and understand historical events but the element of time constraint makes this impossible. Owing to this, animation as a tool will be built in this study. The aim of this study is not to change the current learning system or teaching method, it is just to introduce an alternative method to students for learning the history subject outside of schools. The focus group in this study consists of Form One students. This thesis presents the animation as learning aids to educate students in the history subject and it is not only for entertainment. However, it focuses on the attempt to be effective in the learning process. This research will contribute to the first step of a larger research project in which learning aid tools will be developed from text forms to visualization through the animation medium.

Keywords*:* *Education, Learning Aid, History Subject, Form 1 Student, Animation*

INTRODUCTION

In Malaysia, the history subject is classified as a core subject that the students must pass (enforced since 2013) as a step-in effort to enhance the knowledge of history. However, this desire requires a new paradigm shift in terms of learning. Since this subject should be studied by every student regardless of social backgrounds, ethnicities as well as academic streams (pure science or literary), the history subject definitely has something special or unique to be explored. With the background of the past events, the historical sources are carefully arranged chronologically based on the interpretations written and recorded by someone who studied the subject to produce a history textbook for student use. Today's students are known as Digital Natives (Prensky, 2001), which illustrates the generation of human beings born and raised after the advent of the digital age. The Digital Natives are very comfortable with technology and computer since their inception. They consider technology to be the most important part of their lives and as such, it becomes a necessity for them. Taking advantage of this situation, the use of animation in the mobile gadget is considered to be able to aid more effective

learning as the multimedia use of the learning processes has dynamic, impressive, realistic and conducive effects. Students today have a variety of technologies available to them at home. Entertainment which derived from the television, iPods, computer games or smartphones are quickly replacing traditional entertainment forms such as reading or outdoor activities. In that sense, a newer learning technique needs to replace the traditional learning techniques in the history subject.

Research Background

The best age to study the history subject among secondary school students is as early as 13 years old from Form One and is taught continuously until From Five (Dokumen Standard Kurikulum dan Pentaksiran Sejarah Tingkatan Satu, 2012). Students in this group are able to use and understand abstract logic and concepts according to the biologist and psychologist from Switzerland, Jean Piaget (1869-1980). The total amount of students who failed in the Sijil Pelajaran Malaysia (SPM) in a period of six consecutive years is 363,470 students according to a report released by the Malaysian Examination Board (Lembaga Peperiksaan Malaysia, 2014 – 2019). This amount needs to be taken seriously so that this amount can be minimized in the future. If this matter is not taken seriously, it is feared that more students will fail in the SPM examination.

Problem Statement

The first problem of history textbooks is that they are static and stiff. Static according to Nur Hazidah Awang (2010) is the fact that what is printed on the paper sheets or pages that will be seen and read by readers is not easily altered. Meanwhile, static according to Dewan Bahasa dan Pustaka (DBP) means that everything connected is in a state of silence. This static textbook does not have a fun element for students to learn and this ultimately causes boredom among students when studying and reading about these subjects. According to a study conducted by Abdul Razak Ahmad (2009) on the effectiveness of using static, animated dialogue, he found that the two groups; the experimental group and the control group had no differences in achievement scored by using the text material. On the other hand, there is a difference in achievement scores between the two groups when the dialogical static animation is used for the experimental group. This result showed that there is a strong correlation with the effectiveness of Dialogic Static Animation in the achievement of Form Two subject. Looking at the second problem, the contents of many textbooks are using difficult terms that only complicate the efforts of students to interpret and process the information read. This condition will also interfere with their concentration while reading, as well as reviewing the lesson. According to Badriyah Haji Salleh (1989, p.90), a good history is to use “Good Language”. The statement explains that good language is not a language that uses difficult and unusual terms but simple and clear language. A slick or persistent submission can be easily followed. Among the examples of the difficult terms found in history textbook is “Durbar”, which means the discussion or conference. The study of Mohamad Johdi Salleh and Ariegusrini Agus (2009a) shows that learning using multimedia tools can provide students with a sense of understanding because all the information they need is easily accessible at the fingertips.

In addition to the above problems, glossary (a brief dictionary) is available in the book to find relevant words and this is time-consuming. This is seen only to cause them to steal or to borrow other subjects’ learning time. They have to spend a lot of time reading and understanding the content of each page because of a certain unfamiliar word usage and would need to find the meaning or definition if they do not understand it. However, the position of the glossary is not on the same page. For example, a glossary about the word “GEOLOGI” is found and explained in page 26, while it is not included in page 30 even when the word was used there. This causes students to spend time flipping and turning over the pages which requires them to re-read the paragraph. This statement was also demonstrated by the study of Badriyah Haji Salleh (1989, p.90), ‘Pembelajaran Sejarah Di Institusi Pengajian Tinggi’, where students in these circles had to take a long time to understand one or two pages. Meanwhile, two pieces of research from Rossafri Mohamad and Wan Ahmad Jaafar Wan Yahaya (2007) are mentioned, where in their study of the impact of multimedia materials on history subject, it is found that the use of multimedia can overcome time constraints.

Another problem statement is that history textbooks also tend to be biased because they employ the one-way learning process (Mat Nor Hussain, 1988). No interaction and two-way communication can be created between the readers and those reading materials when students review such matter at home and at leisure. If students do not understand, they need to wait until they return to school to ask the teacher, in which the teacher does not necessarily have time to provide an answer on the spot. This situation eventually resulted in students losing interest in the history subject. According to Mohamad Johdi Salleh and Ariegusrini (2009a), the learning process should include the usage of animation, making it a two-way learning process between students and gadgets. Further information will be obtained quickly and accurately. In addition, learning materials can be conveyed through images, animations, sounds and videos that will make learning more interesting and enjoyable.

The last problem statement contained in the textual content of the textbook is that it contains many ideas that are abstract (invisible) and concepts that are sometimes difficult to understand (Zahara Aziz & Nurliah Jair, 2009). This will be deemed too complicated by academically weak students, in which they have less ability to interpret and decipher a sentence. Reading and imagining are two different things. However, reading with imagining is one thing to do at the same time. These skills need to be applied while studying the history subject. Students in this group usually cannot explain well because the information obtained from reading sources cannot be digested by their mind. This is a predicament faced by students who are academically weak. Imagination cannot be created if the information they read is not clearly understood. There is a method or tool that can solve problems for academically weak students according to Azalina Abdul Wahab (2013), who uses animation. She found that the method of animation nurtures imagination among students involved because they can understand and recall what was sketched and painted with a friend without looking at the text. This is because, they could understand the content more easily through the usage of animation rather than reading this content in plain texts.

Research Aim

The overall objective and aim of this study are to enable students to master the subject of history better by enhancing their ability to remember and understand historical facts by making animation as one of the learning aids in the learning process without changing the current learning teaching method. Animations laboratories are meant to supplement, but not replace classroom and traditional laboratory learning. It is to ensure that students can concentrate and not feel tired or lose their interest. The construction of learning using animation is considered a new methodology, and it is important in designing to support Malaysia educational method known as Pembelajaran Alaf Ke-21 (PAK21) used today. This is the first step of a larger research project in which learning aid tools will be developed from text forms to visualization through the animation medium.

Research Objectives

a. To study how animation is the best application for teaching and learning the history subject for Form One students.

b. To introduce another learning aid for students to easily understand the history subject by using animation.

c. To produce and create a new method by using animation for Form One students in learning the history subject.

Research Significance

The importance of this study is that such method could be used as a guide to a person with interest such as educators, the government and the private sector in solving the problems that Form 1 students currently face due to the lack of mastery of the history subject. Necessary measures and actions must be taken to reduce the number of students who dislike the history subject. If this situation persists, the number of students who do not like the subject will gradually increase over the years, and they may fail the subject in SPM.

THE USE OF ANIMATION IN LEARNING

Various studies have been conducted to test the effectiveness and strength of animation in helping students to understand and to increase students' interest in the learning process of several subjects such as Science, Mathematics, English and in particular, the history subject. In education, there are some basic education and learning principles that relevant parties need to understand in order to achieve a standard level in education. They are as follows: readiness, exercise, effects, primacy, recency and intensity. In short, the definition for each principle is namely: readiness means being well prepared to learn; exercise means carry out repetitive tasks; effects mean emotions; primacy means priorities; recency means to carry out summaries; and intensity means the way an individual gains a greater understanding of the subject in question; learning refers to a process resulting in some modification and permanent ways of thinking, feeling, and doing to the learners.

A review of the study conducted by Danton H. O'Day through an article entitled 'The Value of Animation in Biology Teaching: A Study of Long-Term Memory Retention' (2007) states that "animation provides a valuable way to communicate dynamic, complex sequences of a biological event more effectively than text or a static graphic" (O'Day, 2006a).

In another study written by Yigal Rosen (2009), academically weak students who have difficulty understanding the nature of fine particles in chemistry courses have obtained higher test scores when assisted by the use of animation in lectures or as additional tools from individual alternatives to students who were not using animation according to Williamson and Abraham (1995). In line with the study, it has been revealed that students understand the pathway of the more complex signal transduction after seeing the success of animated animation influencing the achievement of weak students (O'Day, 2006a).

The use of animation in mathematical learning can provide information and assist students with the understanding of the dynamic process to build new knowledge (Taylor, 2008). There are five positive values according to Bukova (2004) when students use technology such as animation as auxiliary materials: acquiring knowledge by doing experiments, making mathematical concepts more concrete, building or improving students' conceptual knowledge about mathematics, learning mathematical concepts that are abstract, and motivating them to learn in a more fun and meaningful way.

Animation has great potential in the study of mathematics, and it can be used to improve students' achievement and help develop mathematical concepts (Kurz, 2004). The usage of animation appears to provide a change in learning methods (Kalbin Salim & Dayang Hjh Tiawa, 2015) and allow students to explore different experiences in learning the ideology of mathematics, supporting students in making mathematical connections both inside and outside the hours of math, and allow students to focus in reflection on learning (Niess, 2006).

The implementation of animation is not only limited to the subjects of science, mathematics and English. Animation can also be used in the study of the history subject. According to previous sources, the use of animation can aid in factual learning (Eun-mi Yang & Andre T., 2003). Therefore, it can be posited that the usage of animation is also suitable for use in all subjects, including the history subject.

METHODOLOGY

With regards to the research design in this study, it utilises a mixed method of quantitative and qualitative as an approach of obtaining as much research data as possible. According to Denzin and Lincoln (1994), research that uses the qualitative method diversifies methods in focus and uses naturalistic approaches to researching objects. Creswell & Poth (2018) defines qualitative research as an inquiry process over the understanding based on common data collection methods when examining social problems.

Quantitative approach: questionnaire.

Qualitative approaches in this study are in the forms of interview, observations and analysis of documents that are the main suppliers of research studies. The table below shows the group of respondents.

Table 1 Group of Respondents

Qualitative Approaches	Respondent	Total
Interview	Teacher	4
	Student	20
Observation	Participant	2
	Non-Participant	4

Research Instrument

The data analysis was used to find differences in students' understanding of learning using the traditional method and learning using the animation method. The number of student scores in both pre-test and post-test will be aggregated into the data. The scores obtained from both tests were statistically descriptive, using percentages. Percentages of post-test scores were compared to see improvement in overall participants' scores. Most of the data obtained will be presented in the form of a percentage table which will explain the comparison between the data collection.

The data obtained from the questionnaire also uses percentages. Data from the questionnaire is needed to determine the level of interest among students in learning the history subject using animation. The questionnaire will be distributed once the response has been completed by post-test. Eight questions will be asked in the questionnaire form. Likert scale was used, having 5 options for answers, and respondents were only allowed to choose one answer. The total number of respondents involved in this study was 35. Data obtained from 35 respondents were systematically analyzed.

Research Sample

The group that is selected as sample of the study consists of Form One students. The selection of the study participants for this evaluation phase was marked by their respective teachers. The act of selecting participants involves only history teachers, where these teachers will select the study participants who are Form One students. The teachers must also be the teachers who are teaching in the same class as the study participants. This is because the participants are students who are weak in the history subjects with either a passing grade (E) or a failed grade (G). To identify and determine a student's weakness in history subjects, teachers use the results of the examination as a reference.

Data Analysis

The data for this study was analysed with a statistical software known as SPSS (version 20). SPSS is a statistical analysis software used to obtain results from a set of questionnaires that were distributed manually in a government-assisted school. SPSS is an open-source software developed by IMB. The software is useful for analysing statistic data. It was released in 1968 and is widely used in statistic programs in social sciences. SPSS is capable of handling large amounts of data and can perform all of the analyses covered in the text, number, and much more. This software was chosen because of its compatibility with most other software packages and its user-friendliness used to collect data analysis (Field, 2009). The following are the steps used by this study to analyze the data.

DATA ANALYSIS

Quantitative Data Analysis Result: Questionnaire

A questionnaire form is used to look at the problems that Form One students face in leaning the history subject and how this research can come up with inventions that can support that learning.

Section A: Students' Attitude toward the History Subject

In this section, there are 5 related questions and the answer are as follows:

Table 2 Attitude towards the History Subject

		STRONGLY DISAGREE	DISAGREE	NOT SURE	AGREE	STRONGLY AGREE
		1	**2**	**3**	**4**	**5**
1	I focus completely on the teacher teaching in the classroom.	0	0	10	8	2
2	I always spend time in the library just looking for history books.	6	7	6	1	0
3	I do history training even though the teacher doesn't ask me.	0	6	10	4	0
4	I prefer to remember historical facts over other subjects.	2	6	5	7	0
5	I regularly review and search history books in my spare time.	1	8	5	6	0

Among the five questions given, there is one question that focuses on question number 2. The problem that can be said through this section is that students only spend time studying the history subject when with teachers. If they are not with the teacher, they prefer not to learn and would not study the history subject even in groups or individually.

The history subject is not among the subjects they struggle to learn because there is no innovation in learning the history subject besides the traditional method, which is by reading through a textbook. Students are afraid of failure, but there is no other alternative way they can explore.

Section B: Students' Interest in Animation

In this section, there are 5 related questions and the answers are as follows:

Table 3 Students' Interest in Animation

		STRONGLY DISAGREE	DISAGREE	NOT SURE	AGREE	STRONGLY AGREE
		1	**2**	**3**	**4**	**5**
1	I like animation.	1	2	1	5	11
2	I'm so happy to be able to learn using animation.	2	0	3	4	11
3	I always watch movies / animated stories during my free time using my mobile phone.	2	3	4	4	7
4	I remember the facts by drawing on my own imagination.	1	0	4	7	8
5	I can summarize the contents from the textbook through animations sketch/ drawn by me.	2	1	7	5	5

The answer for number 1 is clearly stated in this group of students who liked the animation as 16 people agreed and strongly agreed. They are also happy to be able to learn using animation where 11 people strongly agreed and 4 people agreed with such statement. There are 11 students who indicated that they always watch movies or animated stories in their spare time using a mobile phone. This is a common phenomenon that is affecting students today. This phenomenon is in line with the existence of a generation dubbed the Native Digital. They can also summarized the contents of the textbook through animation sketch or draw by themselves. It is great to be able to create an easy way for them to understand the subject of history. The above clearly demonstrates that they need to be assisted with animation in learning the subject of history.

Qualitative Analysis Result: Interview

During the interview with teachers, there were 3 types of questions. All answers received from the teachers would assist in obtaining information related to this study.

a. Do you think learning the history subject using a textbook is enough? Do we need to add a study aid other than the textbook itself?

Students should also be given a variety of materials as long as the learning goals reach them. In conveying knowledge, it is not wrong or a problem if other methods are used. If there is a study tool created specifically for this subject, it can also help and ease the work of the teachers. But it is important to make sure that the study aids are different from the textbook features to provide students with a variety of approaches to learn this subject.

b. What reading materials do teachers give to students when they are at home?

There are two study aids provided by the teachers and given to students for use after school hours in addition to textbooks. As a result of the information obtained in this interview, there are only two types of study aids provided, which are short notes and homework.

c. What do you think if history subject exists in the form of animation?

We watch animation, not reading it. Something that is seen is easier to understand than reading because sentences are long and sometimes need to be repeated. Animation allows 3 actions to be performed simultaneously, which are watching, hearing and record. It is something that is highly anticipated and great for student use, especially for Form One students as they prefer something creative.

DISCUSSION

Based on preliminary findings through the interview and questionnaire conducted, the need to produce animation to study history subject has received a green light from students and teachers. They think this effort is in keeping with the scenario that Form One students face today. Form One students are trained and expected to have high over-thinking and critical thinking skills. Thus, animation is seen to help students manage their time more effectively. This is because learning time can be reduced. It is possible for students to understand in two minutes rather than reading textbooks that may take half an hour to understand the same content. This action should be taken more quickly as it is in line with the goals and time since the Malaysian learning system has experienced a new revolution of student-centered learning and is no longer solely focused on teachers.

CONCLUSION

In conclusion, this section will address the background of the study which will involve several things as a guideline for this research. Furthermore, the involvement of the problem statement will also explain the problems that arise, which lead to this study. The focus of this study will also state the objectives of the study and the question of the study. This chapter also includes the importance of research to educators, the government, as well as the private sector. There are some limitations faced during the implementation of this study. The contributors to the main problem include the lack of data to support the literature and the difficulty of obtaining a reference statement to be accompany the point in this study. Although there is a lack of literature on the specific topics for this research, the information obtained from studies of other academic subjects has helped to complete this study. The data obtained is extracted from a broader study that is not centered on the history subject alone. When the whole information is gathered together, it is clear that the use of animation can assist students to understand the learning process more effectively. This is because animation has a unique feature that can attract students to follow the lessons, learn and improve their academic performance.

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