Utilization of Digital Media to Improve The Quality and Attractiveness of The Teaching of History

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ABSTRACT

Historical learning serves a very important function, to waken the students' awareness of the past society transformation and development process. Another function is to build historical perspective and awareness in finding, understanding, and explaining the nation's self-identity amid the world transformation. However, the success of historical learning remains to be questioned until today. The most fundamental problem in historical learning is the attempt of improving the quality of learning process so that an effective, efficient and attractive result is achieved. One attempt of dealing with the low attraction and quality of learning is to use varying learning method and media. The best learning media for history is the object directly. The object/concrete object will give a real learning experience. However, in reality, as the technology develops, many object of historical learning is available in limited number in the field. This limitation may be due to space, time, and sensory power. Many historical learning objects are difficult to acquire because of its far distance, too big or too small size, complexity, or abstractness. For that reason, a learning media should be designed that can deal with such the limitation. One of it is by utilizes IT-based media. Some IT-based learning media that can be used are digital book, e-learning, learning multimedia and other formats.
Through a sustainable research, it could be proved that through using digital media, teacher could teach history more joyfully. Using digital learning media can also invite the students to watch directly the form of historical heritage objects so that they will not only think or imagine them but they could watch them directly, finally, the quality of historical learning could improve or be more attractive..

Keywords: historical learning, digital media, quality, attraction, digital book, e-learning, multimedia.

INTRODUCTION

Historical learning plays a very important function, to waken the students' awareness of the past society transformation and development process. Another function is to build historical perspective and awareness in finding, understanding, and explaining the nation's self-identity amid the world transformation (Depdiknas, 2003). History is the chain to understand what had occurred in the past, it consequence in the presence, and it effect in the future (Suhartini, 2001).

The objectives of historical learning are: 1) to build the students' awareness of the importance of time and space constituting the process of the past, the present and the future; 2) to train the students' critical thinking to understand the historical fact correctly based on scientific approach and methodology, 3) to grow the students' appreciation and respect to historical heritage as the evidence of Indonesian civilization in the past; 4) to grow the students' understanding on the process of creating Indonesian nation through a long and ever processing history; and (5) to grow the students' awareness as the part of Indonesian nation with pride and love motherland (Haryono, 1995).

Historical education is expected to give insight into the events occurring in many periods in the attempt of creating the students' attitude and behavior. It is time for

historical learning in our school to feature not only the fact and chronology of an event, but also the values that can be taken from an event. Teachers should improve the technique of presenting historical material that can attract the students' attention, among others, through mastering language, increasing knowledge through reading continuously, and passion and high interest in their study object, using teaching aid, and keeping up-to-date with the present events (Kartodirjo, 1993). Teacher is required to develop learning material, media and teaching method creatively (Supriadi, 1994).

The successful historical learning is still questioned until today. The fundamental problem in historical learning is the attempt of improving learning history in order to get the effective, efficient and attractive outcomes. So far, learning is conducted conventionally and uses supporting media very rarely (Naz and Akbar, 2004). It makes the historical learning considered as less attractive. It is attraction that makes the students want to learn the subject. Learning organization and delivery strategies play very important part in maintaining the subject's attraction.

One attempt of dealing the low attraction and quality of learning is to use varying learning methods and media. Learning media is the intermediary/conductor and message carrier in the learning. For that reason, through using media, the delivery of learning material can be uniformed, the learning process will run more attractively, the students will be more interactive, the learning time will proceed more efficiently and will improve the quality of learning. Learning media can be an attempt of improving the quality of interaction between teacher and students.

Considering the considerable advantages of using learning media, it should waken the students to select learning media creatively. There are six reasons of why until today there are a number of teachers using learning media reluctantly. They are: 1) using media is troublesome, 2) sophisticated media is expensive, 3) incapable of using it, 4) media is an entertainment, while learning is serious, 5) no learning media is available at school, and 6) the habit of enjoying speaking (Koesnandar, 2003).

Sometimes teachers have attempted to use media in learning. However the media use does not give optimum result in the improvement of students' learning interest and outcome. It is because of some factors: 1) the students do not know how to use learning media in learning process, 2) the use of learning media by students is still very limited and not substantive so that it is considered as less helpful in mastering the teaching material, and 3) less varying learning media so that it is very boring (Mulyanta and Leong, 2009).

The best learning media is the object itself. With concrete object, much more experience will be learnt. It is illustrated in Edgar Dale's experience cone in the figure below:
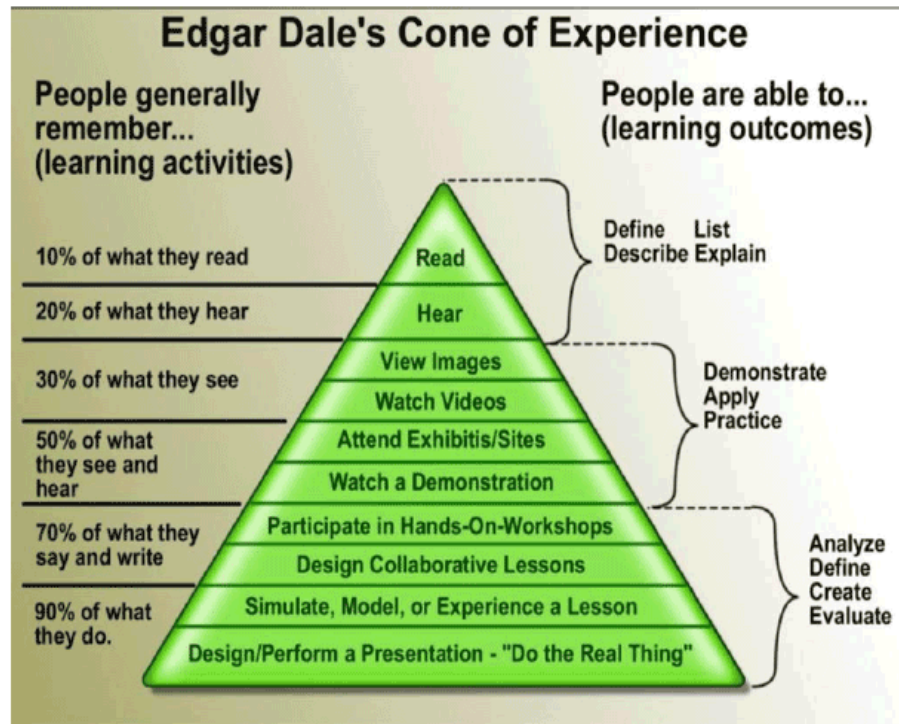
Figure 1
Experience cone adopted from Edgar Dale

From the figure above, it can be concluded that if the more concrete learning media is used, the message (information) in the learning process delivered by the teacher to students would be better. However, if the more abstract learning media is used, the message (information) would be difficult to accept by the students. The students find difficulty in understanding and absorbing what the teacher delivers. It is confirmed by Arsyad (2004) mentioning that 'the acquisition of knowledge and skill, the change of attitude and behavior may occur due to interaction between new experience and the previously encountered experience". For that reason, it will be found whether or not the use of learning media will affect directly or indirectly the acquisition and the growth of students' knowledge, skill and attitude.

In reality, many direct objects of historical learning are still limited in their availability in the field. This limitation may be due to space, time and sensory power. Many historical learning objects are obtained difficultly because of its remote location, too big- or to small-size, complexity, and abstractness. For that reason, a learning media should be designed that can deal with such the limitation. One attempt of doing so is to use IT-based media.

DISCUSSION

The progress in technology area has changed the learning paradigm gradually. Stead in Mahammad (2010) stated: *The evolution of learning paradigm from traditional classroom based learning and electronic learning had brought out the new learning paradigm based on mobiles which is known as m-learning"*. This paradigm shift presupposes that learning and education are inseparable from technology advance. Currently, we have arrived at m-learning paradigm utilizing more mobile set (technology) such as cellular phone or smartphone, tablet and laptop (El-Hussein &

Cronje, 2010). Just like Baek & Cheong (in Mahamad, at al, 2010) suggested, *m-learning* has many advantages in education realm, one of which is to enable learning flexibly (whenever, wherever).

Valk et al, as cited by Kim (2013, mentioned that the use of digital media with cellular phone among the students in developing countries can improve the access to learning material and education service, particularly in rural and remote areas. Previous studies related to the students' attention and visual perception reported t hat many students want to use more comfortable learning material, so that they can learn whenever and wherever they are (El-Seoud,   and Alwadani, 2014; El-Hussein & Johannes, 2010; Cabanban and Marcos, 2013; Saipunidzam, Ibrahim and Taib, 2010; Remirez, and Canto, 2011; Yang, Shih-hsien, 2012;, Yousuf, 2007).

Referring to this problem, one attempt taken is to develop a sophisticated and expedient learning media, meaning the learning media suitable to be used by students, corresponding to the characteristics of historical study area, and corresponding to the specified learning objective.

DIGITAL LEARNING MEDIA IN HISTORICAL LEARNING

Anitah (2008) stated that learning media is any thing usable to channel the message included into the learning objective. In addition, learning media can be used to stimulate the students' thinking, feeling, attention, ability, and skill thereby encourage the learning process to occur.

Learning media can be categorized into traditional media and digital media. Traditional media in this context is the media variety used without electronic or computer set support. Meanwhile digital media is the media, the use of which should be supported by computer set. The media variety belonging to traditional media includes: book, poster, reality and model. Although not belonging to sophisticated media, traditional media remains to be used popularly as the learning source.

The very rapid development of digital media and network recently affects significantly any aspects of human life, including learning activity. This development makes the learning activity occurring not only with limited information source but with more varying and opened one. The increasingly rapid revolution of computer technology has made the size of digital set smaller. The computer set that formerly could be operated only in a place as work station, now changes n into the more concise and portable one (Benny A, 2016).

The development of digital technology in computer set leads an individual to transfer (transfer), convert (conversion), and store (storage) data more easily. The advance of information and communication technology up to now has change the lifestyle and the society's way of acquiring and utilizing information. In addition, the advance of network technology in line with that of digital technology has been able to increase the knowledge vocabulary.

The advance of information and communication technology has changed the learning paradigm. The old paradigm considered teacher as the only information source in learning. The advance of information and communication technology leads the teachers to serve not only as the instructor, but also as the organizer and developer of learning process.

Teachers contribute more to facilitating the students in conducting the learning process. To undertake this role, teachers should learn more and develop their interpersonal competency, including communication technology mastery. Teachers

should have good knowledge on computer and communication technology before teaching it to the students. As an educator, teacher should prepare the students for the future life. The learning in the future will no longer use conventional mechanical behavioristic method, based on standard, using external control. The learning in the future will be characterized with some important characteristics: 1) involving individual students totally; 2) emphasizing on collaboration (collaborative); 3) using varying learning methods; 4) utilizing intrinsic motivation; 5) having joyfulness element in learning, and 6) integrating the learning activity into any life aspects of students. The table below represents the comparison of the present conventional learning and the future learning (Benny A, 2016).

Conventional learning	Future learning
• Mechanical • Based on standard • Using external control • Tending to be behavioristic	• Students participate totally • Emphasizing on collaboration (collaborative) • Using varying methods • Using intrinsic motivation • There is joyfulness element in learning activity • Integrating the learning activity into any aspects of life

Figure 2
The comparison of the conventional learning and the future learning (Benny A, 2016)

One important thing to do in learning activity at school is how to make the students learn well and joyfully. The students should have a learning ability about how to learn (learn how to learn). Teacher should be able to create learning activity enabling the students to like the learning activity. The consideration in selecting the learning media in learning activity should facilitate the achievement of learning as the students expect.

Some examples of digital media format are given below

1. Digital Book

Electronic book (e-Book) is a type of publications in digital format. This digital text publication is called e-Book, e-Text online-Book, and file-Book. (Wen, et.al., 2012, Jung, 2008, Stanković & Tešmanović, 2014).

Electronic book is one technology utilizing computer to display multimedia information in concise and dynamic form. Into e-book, sound, graphics, picture, animation and movie shows can be integrated so that the information presented will be richer than that in conventional book (Gardiner, et.al. 2010). The simplest type of e-book is the one only transferring the conventional book into the electronic form displayed by the computer. Through this technology, hundreds book can be stored in one CD or compact disk (with capacity about 700 MB), DVID or digital versatile disk (with the capacity of 4.7-8.5 GB), and flash disk. The more complex form requiring more precise design is Microsoft Encarta and Encyclopedia Britannica constituting an

encyclopedia in multimedia format. Multimedia format enables e-book to provide not only written information but also sound, picture, movie, and other multimedia elements.

Park, Kim and Yoo (2012) in their study in South Korea found that digital book gives positive response when it is used concomitantly with Problem Based Learning model. Furthermore, Kim Martin and Anabel Quan-Haase (2013) found that digital book is effective to improve the attraction of historical learning. However, digital book in historical learning should be used in parallel with textbook. Wen, et al (2012) in his study found that the use of e-Books can improve learning effectiveness and learning motivation. Here are the examples of digital book for historical learning:
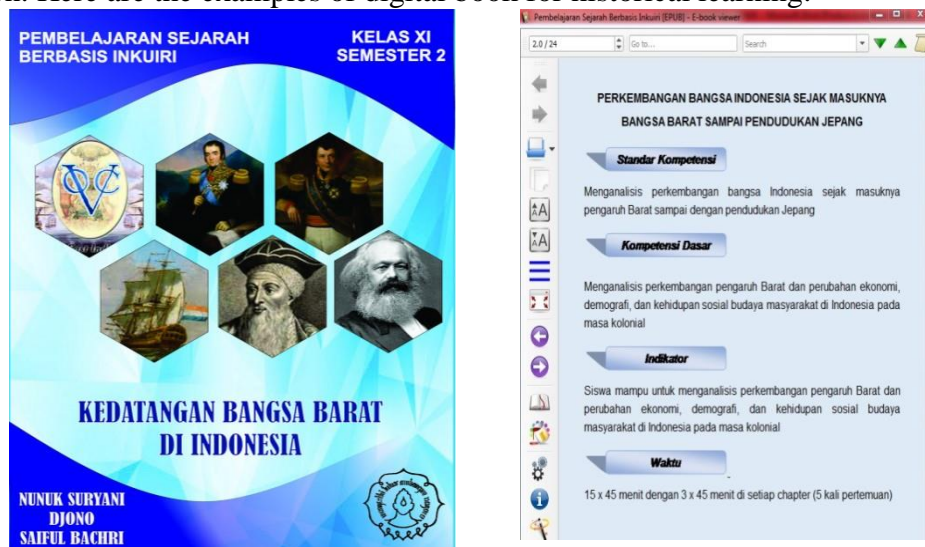

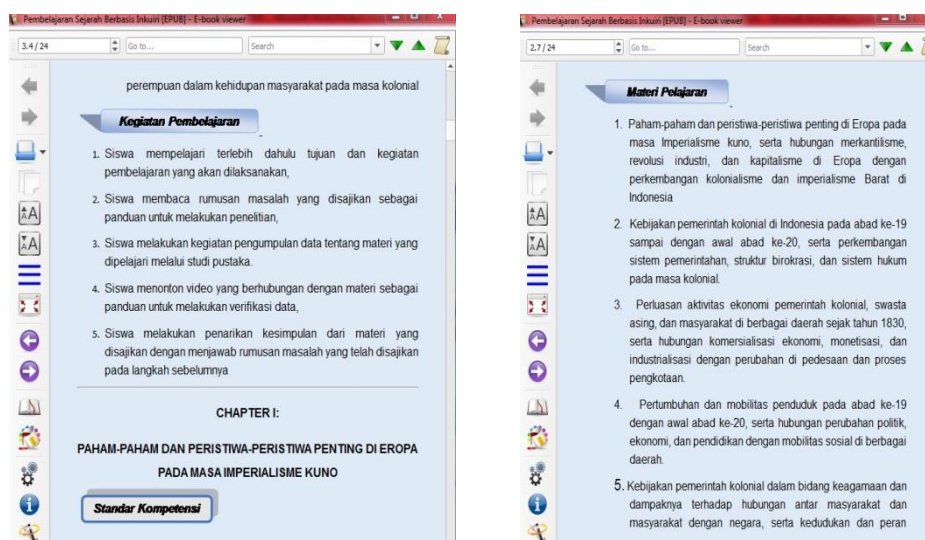Figure 3: Historical Learning Digital Book

Figure 4: The Elements of Digital Book

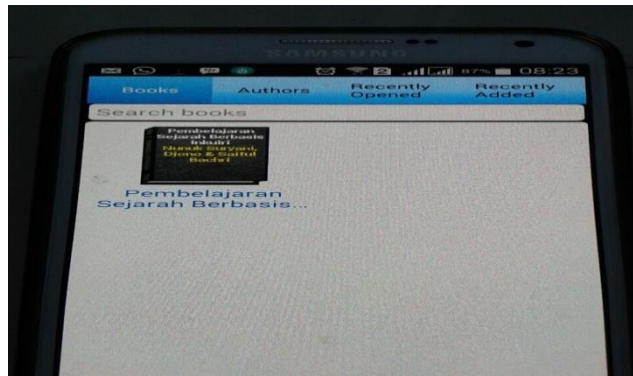This digital book can be access from android-based mobile phone set, as illustrated in the figure below:

Figure 5: The appearance of digital book on android set

Digital book that can be read by reader is, among others, Gitden Reader, that can be downloaded freely in the play store.
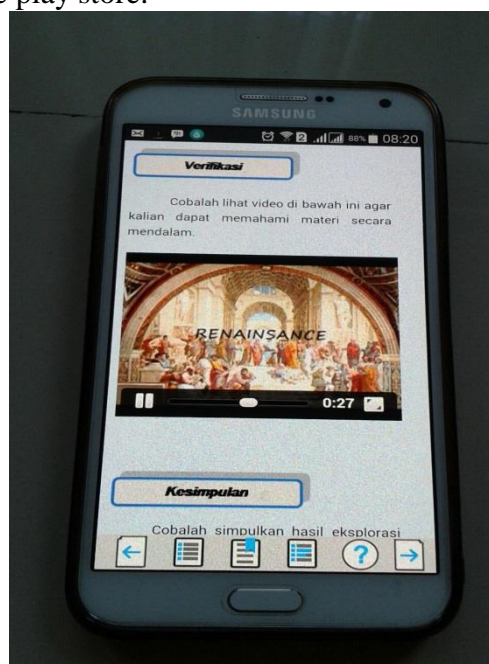

Figure 6: The appearance of digital book on mobile phone

Digital book is developed using sigil software and can be read with *e-pub viewer* using *callibrie* with tutorial in the manual instruction below:
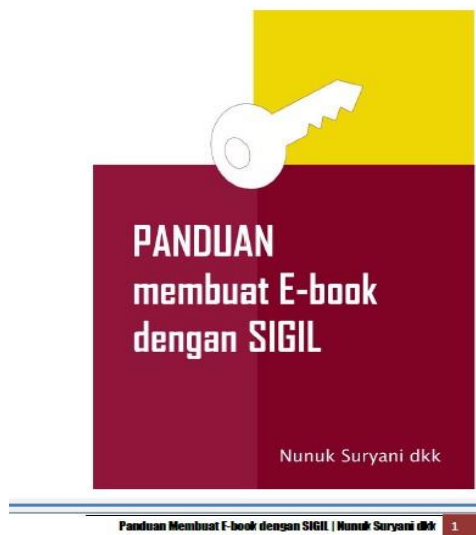
Figure 7. Manual Instruction

Suryani (2015) proved that digital book improves the attraction and quality of historical learning effectively in the students of Senior High Schools in Solo.

2. E-learning/virtual class as the supplement of face-to-face learning

E-learning or called virtual class is the form of information technology application in education area. Virtual class is the change of conventional teaching-learning process into digital form. The learning process of virtual class can run when it is supported with information technology use.

In the learning process integrating information technology, the teacher is expected to serve as facilitator, collaborator, mentor, trainer, director, and learning fellow and to give choice and big responsibility to students to experience the actual learning event (Suryani, 2014).

Meanwhile, the role of students in the learning process integrating technology enables the students to participate actively, to yield and to share knowledge/skill and to participate as much as possible just like the experts in their area, learning autodidact and collaboratively with other students (Suryani, 2014). The Learning Management System (LMS) used in virtual class is varied. Each of them has their own strength and weakness. The use of LMS needs considerable infrastructure and sustainable maintenance (Subagya, 2007).

The use of e-learning is inseparable from the internet's role. Williams as cited by Suryani (2014) stated that internet is '*a large collection of computers in networks that are tied together so that many users can share their vast resources'.* The more widely use of internet for education purpose, particularly in developed countries, is the fact showing that this media allows the more effective teaching-learning process organization. It is because through its typical characteristic and property, internet is expected to be used as learning media just like other previously used media such as radio, television, interactive CD-ROM, and etc. Here is the example of virtual class using Edmodo in historical learning.
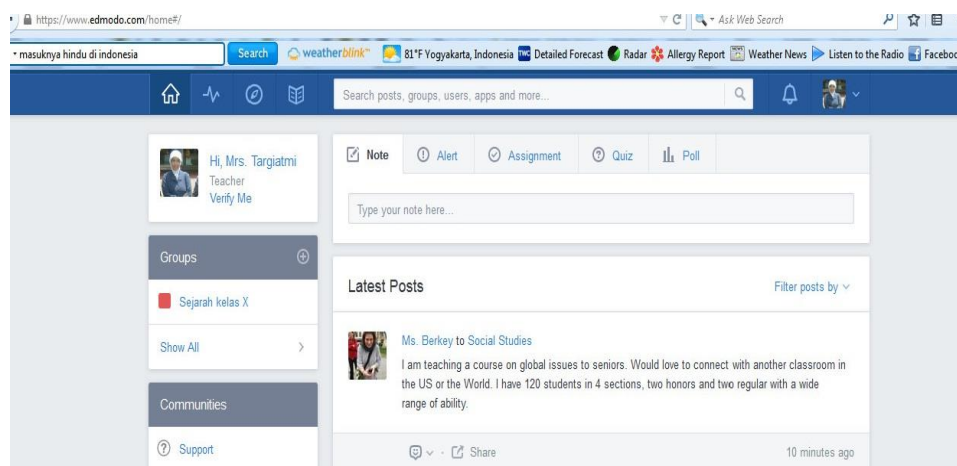
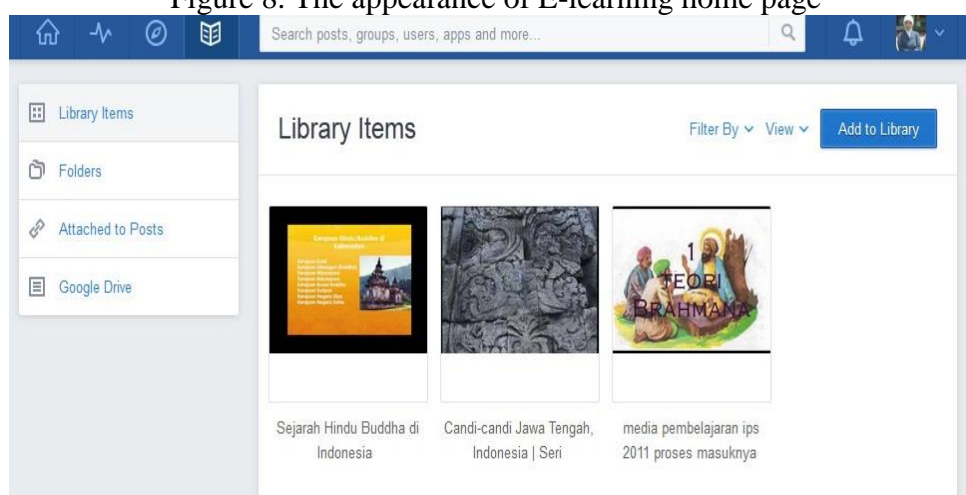Figure 8. The appearance of E-learning home page

Figure 9. Sample material stored in the 'library'

Edmodo is the social network that can be accessed anywhere in the internet, with free application, facebook-like interface (familiar to the children world currently), good support system and availability in many languages, including English, Spanish, Portuguese, Dutch, Greek, and France. The advantages of Edmodo are, among others: providing the easy and comfortable facility in developing the class as intended, providing an opportunity of learning corresponding to the different characteristics of students personally, and providing communication medium for teacher, students and parent/student guardian personally. Another advantage of Edmodo is that it facilitates the teachers, students, and parents in sharing idea/thought, sharing file, assigning homework, assessment, quizzing, pooling, discussion, reminding the assignment and etc (Seamolec, 2013).

Suryani (2014) proved that the virtual class of History can improve the students' critical thinking ability about historical value and learning attraction. E-Learning or virtual class is something needed absolutely to anticipate the time development with information technology support. In information technology era, everything goes toward digital era, both in mechanism and in content. All learning materials, including historical subject can be developed with e-learning system.

3. Multimedia learning

Multimedia is related to the use of one or more media types to deliver message or information. Heinich (1996) defined multimedia as the combination of two or more media formats in integrative manner thereby producing information or education program.

Multimedia in the computer context, according to Hofstetter (2001) is the use of computer to present and to combine text, graphic, audio, and video with link (connection) and tool enabling the users to navigate, to interact, to work, and to communicate. It is in line with Constantinescu (2007) stating that "Multimedia refers to computer-based systems that use various types of content, such as text, audio, video, graphics, animation, and interactivity".

Based on the definition above, multimedia consists of four factors: 1) the computer coordinating what is seen and heard, 2) the link connecting the users to information, 3) the navigation tool helping the users explore interconnected information network, and 4) multimedia providing the space to the users to collect, to process, and to communicate information and idea interactively.

The presentation conducted by combining all of multimedia elements makes the information acceptable to auditory and visual senses, closer to its original form in the real world. Norhayati & Siew (2004) argued that "*the interactive multimedia courseware reveals an interesting and exciting tool for teaching and learning. It may be used in class as a demonstration tool. On an individual basis it helps to reach pedagogic goals*".

The roles of multimedia in the learning process is suggested by Hamalik (1989) as: 1) helping the students learn the broad learning material, containing a variety of concepts, 2) growing learning motivation, attitude and more effective learning method and growing higher perception on what is learnt, 3) helping the students and teachers in the process of learning a study field, with multidisciplinary support, in which each discipline contains many material to be learnt, 4) improving satisfaction and success corresponding to individual teachers' wish, 5) helping the students to learn many things and to conceive them deeply, and 6) helping the students and teachers in the learning process to meet the curriculum demand.

From the statement above, using the learning multimedia, the role of teacher will change from the only learning source formerly to the facilitator in helping the students construct their own knowledge. In line with this, Munir (2012) explained the advantages or strengths of multimedia: 1) explaining learning material or abstract (unreal) object into the concrete (real) one, 2) giving real and direct experience, 3) learning the learning material repeatedly, 4) allowing the shared correct opinion and perception on learning material or object, 5) attracting the students' attention thereby generating their learning interest, motivation, activity, and creativity, 6) helping the students to learn individually, in group, or classically, 7) retrieving the old learning material more easily and expressing it again quickly and appropriately, 8) facilitating the students to know and to understand, and 9) coping with limited space, time, and sense.

In historical learning, multimedia plays a very important role. History studies the events occurring in the past. The events occurring in the past can be revealed when there is historical source supporting. The historical source consists of: 1) oral source: direct information from the witness of the events occurring in the past or from the one receiving information from others such as speech record, interview result, and the resource of historical actor or witness; 2) written source: it is the source obtained through written heritages such as inscription, text document, agreement, book, paper,

and etc; 3) object source (artifact): it is the cultural object heritage such as inscription buildings, sculptures, weapons, and etc.

| Incsription | Sumber Tetek Temple | Heritage object | diorama |

Figure 10. Example of historical source

It is not easy to present the historical source to the classroom. Through multimedia aid, historical learning will run more easily and joyfully because the historical materials can be reengineered and produce a more alive appearance by combining pictorial concept, 3D animation, and etc. Through video, teachers can represent the actual condition without the need for coming to the likely unaffordable actual location. Here is the example of multimedia for historical learning.
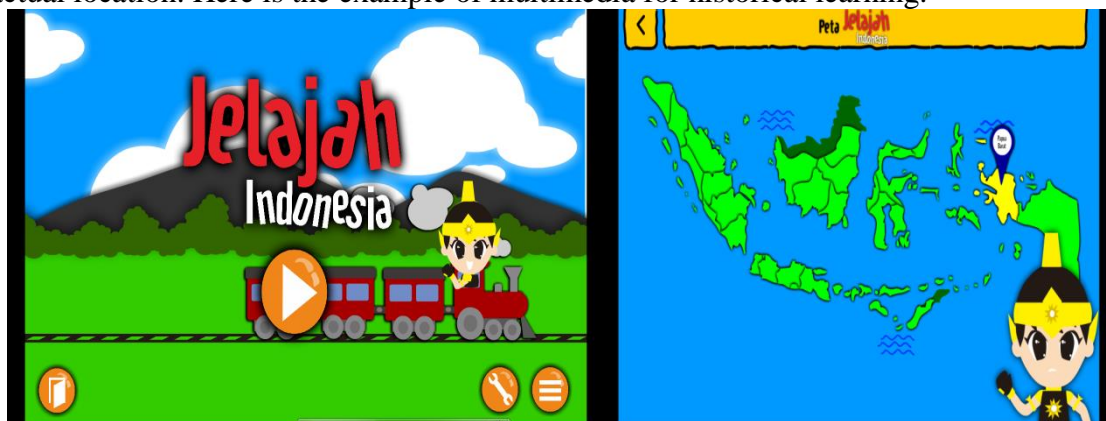

Figure 11. Interaction Multimedia for Social Sciences Learning

The result of usability test shows that the use of interacting learning multimedia makes the students learn more vigorously. The learning will be more attractive to the students thereby grow their learning motivation. The students are quiet and do not talk to each other during the learning process. Thus, there is difference of student behavior between before and after using interactive learning multimedia. In addition, the result of Social Science learning is better after using multimedia (Tri Astuti and Suryani, 2016). Another form of learning multimedia is digital comic as illustrated below.

Figure 12. Digital comic of General Soedirman guerrilla war

Considering the multimedia product test, it can be concluded that the application of digital comic multimedia is very useful in the historical teaching-learning process. Using such the multimedia, the students become the main center of learning activity (student-centered learning) so that it will automatically motivate the students to learn. Teachers serve more as guide, mentor or facilitator in learning activity so that they should select the multimedia appropriate to the learning (Suryani et al.,. 2016).

CONCLUSION

Learning is a process encouraging the students to learn. In conducting learning, some supporting elements are needed, one of which is media. Currently, the use of media in learning becomes a need (requirement). Media and learning are an overlapping unity. Media is an integral part of learning. The use of media in learning can help the educator (teacher) facilitate the delivery of understanding related to the material explained to the students.

The media used can be in any form as long as it is consistent with its function. It is because essentially, the media is expected to provide efficiency and effectiveness in learning. In the historical learning particularly, the use of media is very desirable. It can at least stimulate the students to be more interested in and to learn history more vigorously. Moreover, the use of media is expected to align and to change their misperception on the history subject as the boring subject formerly to the "very joyful" one.

Using digital media, teacher can teach history more joyfully. The use of digital learning media can also invite the students to watch directly the shape of historical heritage objects so that they will not only think or imagine them but they could watch them directly.

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