Utilization of Multimedia Technology for Instructional Media

Pemanfaatan Teknologi Multimedia untuk Media Instruksional

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Abstract

The study of this theory aims to find out how animation as multimedia-based learning media can help the learning process undertaken by teachers and learners, and help students understand the visualization provided by the teacher. The rapid development of technology makes technology become one of the necessities that must be possessed by humans to help solve a problem encountered. One of the technological developments that are currently emerging technology-shaped gadgets. Lifestyle development of people who prefer practicality began to bring gadgets. There are new challenges for teachers from the rapid development of the world of informatics technology and electronic devices such as gadgets, that is how teachers can utilize gadgets to optimize learning in the classroom. Because like or dislike, our students are big in the digital age, so the teachers as much as possible adjust to the development of technology.

Keywords: Technology, multimedia, media, instructional.

Abstrak

Pengajian tentang teori ini bertujuan untuk mengetahui bagaimana animasi sebagai media pembelajaran berasaskan multimedia dapat membantu proses pembelajaran yang dilakukan oleh guru dan pendidik, dan membantu siswa memahami visualisasi yang diberikan oleh guru. Pesatnya perkembangan teknologi telah membuat teknologi menjadi salah satu kemudahan yang harus dimiliki manusia untuk membantu memecahkan masalah yang dihadapi. Salah satu perkembangan teknologi yang saat ini muncul gadjet berasaskan teknologi. Perkembangan gaya hidup orang yang lebih memilih kepraktisan mulai membawa gadjet. Ada cabaran baharu bagi para guru dari pesatnya perkembangan dunia teknologi maklumat dan peralatan elektronik seperti gadget, begitulah cara para guru bisa memanfaatkan gadget untuk mengoptimalkan pembelajaran di dalam kelas. Karena suka atau tidak suka, siswa kita membesar di era digital, sehingga guru sebanyak mungkin perlu menyesuaikan diri dengan perkembangan teknologi.

Kata kunci: Teknologi, multimedia, media, instruksional.

INTRODUCTION

The development of multimedia technology has a promising potential for changing the way people learn, to get information, to adjust information and so on. Multimedia also provides opportunities for teachers to develop learning techniques to produce maximum results. Likewise, for learners, with multimedia expected they will be easier to determine what and how learners can absorb information quickly and efficiently. Sources of information are no longer focused on the text of the book solely but broader than that. Multimedia technology capabilities that have been connected to the Internet will further increase the ease in obtaining the expected information. The mix of files between audio and video makes the delivery of material by teachers more interactive and interesting for learners. Technological developments from time to time undergo significant changes. The development of technology is clear that before the existence of gadgets or advanced technology a lot of communication media available and used by the community. Communication media such as print media, radio, film, television, computer, cable TV system, satellite and so on, and has been adopted and entered the entire world. The development of communications equipment has existed since prehistoric times by drawing in caves about 22,000 years BC. The arrival of new communications technology has characterized by the increasing number and variety of technologies based on electronics technology. Modern teachers are not enough to just use the latest technology but also must be able to build a sense of learning pleasure which then raises the critical thinking and creative soul of the students. On the other hand, the presence of high-tech all this does not necessarily make them digital robots are mute, arrogant, and selfish. For it makes the teacher's duty to continue to provide human touch that makes children remain polite, empathetic and social-spirited. Teachers should also assist and direct their students to utilize technology in a healthy way for a better future in the technological era for the advancement and development of learning and education.

"National Education serves to develop the ability and development of character and civilization of dignity in the context of the life of the nation, aims to develop the potential of learners to become a Man of faith and fear of God Almighty, noble, healthy, knowledgeable, capable, creative, independent and become Democratic and responsible citizens. " Multimedia can explain abstract concepts through animation seen by some as an elusive science will be more easily understood. The use of multimedia, learners are expected to be motivated to understand the learning materials, thus the presence of multimedia in the learning process becomes highly perceived in spurring motivation to learn, can provide a better explanation and complete about the problem something, make it easy to repeat lessons, conduct training, and The ability to measure, as a multimedia provides an opportunity for learners to interact with the program presented. At this time the child has begun to look for identity / identity formation, trying to find a group or friends who are willing to acknowledge their ability and respect and have begun to have an interest in the opposite sex (sexual interest). Adolescence is a time of self-discovery, and it can be in the process of seeking the identity of the teenager through the right path or the wrong way. When teenagers fail to develop their sense of identity, teenagers lose their way, like a ship losing a compass, and that will have an adverse effect on the personality development in the future. Adolescence is the most vulnerable to influences coming from outside. Both positive and negative

influences, this is where the role as parents in need to be able to guide and direct the adolescent so as not to lose control himself (self-control). On the other hand, also as parents, always monitor the development of children, with no curb creativity or the world of children. Because, children have their own world, they live with all the imagination and friends they have. The task of parents is to educate and direct the future of our child's world not only to become a world filled with darkness, but also a world coloured with joy and happiness and a world where they judge their image (image of self) positively and have confidence.

SCOPE OF THE PROBLEM

In the essence, technological advances and their effects in life are the things we cannot avoid. However, we can take wise action against ourselves, the family, and also the wider community for this increasingly powerful technological progress is not to shift our identity as human beings who have the norm and also the noble values of character. However, as members of society, and especially as parents, we must take a representative and preventive action, to the maximum extent possible to prevent the negative effects of technology on our children, especially teenagers who are golden generations who will be the successor of our struggle to form a nation that Morality and culture in the future. Each learner has different abilities to capture the lessons given by the teacher. The difference in the ability to capture information then directs the learner into love or not on the subject. Learners were able to absorb information tend to be like a lesson, but learners who are weak in capturing information will tend to dislike this lesson. The learning process is often confronted with abstract material and beyond the experience of everyday learners, so that this material becomes a difficult and difficult to understand teaching student. Visualization is one way that can be done to make concrete things more abstract. Image visualization of two-dimensional or three-dimensional model is often done in learning. Multimedia is a combination of text, image, sound, animation and video, some of these components or all components are incorporated into a coherent program. Multimedia is a computer system that makes it easy to combine text, graphics, audio, video, and animation in the form of presentations, controlled by interactive, creative, and fun computer programs. Learning by using multimedia develops the basis of conventional learning that cannot meet the needs of learners in learning.

Mishra and Sharma (2005) argue that the purpose of media research is to identify characteristics (abilities and limitations) which can then be applied in the Instructional Design stage, thus avoiding the use of faulty tools for certain pedagogical purposes. Smaldino, Rusell, Heinich, and Molenda (2008). They argue that the purpose of the media is to facilitate communication and learning. Examples such as video, television, diagrams, print materials, computer programs, and so forth. Smith (2006) explains that multimedia is the integration of text, graphics, sound, and video or animation in a computer-based environment. The Web is a multimedia environment, it's easy to imagine combining multimedia into instructional tutorials to improve the learning experience. According to Seels and Richey (1994), utilization is an activity using processes and resources to learn. That is, in the learning process to use learning resources that can help teachers and learners. A process that can be an

experience and can result in a change in attitude or behaviour or related to that understanding from not knowing to being know and not understanding understood. Clark and Mayer (2008) who explained that the presentation in the form of multimedia can encourage learners to engage in active learning by mentally representing material such as text and images and mentally making connections between pictorial and oral representations. Spector, Ohrazda, Schaack, and Wiley (2005) suggest that the speed of learning is related to how quickly the human brain processes incoming information (the speed of information processing), the ability to integrate new knowledge into existing cognitive structures (associative learning skills) And the ability to work out the rules that underlie perceived data (inductive reasoning skills).

According to the Association for Communication and Technology Education (AECT) at Miarso (1994) "The use of efforts for learners to interact with learning resources and components of the learning system", In the learning process students try to actively gain knowledge from various learning sources Such as teachers, print media, electronic media and learning environments. According to Seels and Richey (2002), the utilization of technology in the field of education is an activity undertaken for the benefit of the learning process through the usage of learning resources so that learning objectives can be achieved and behavioural changes. There is a difference related to the learning proposed by McArdle (2010), i.e. learning is a cognitive process that leads to the ability of learners that they do not have the ability before the learning process. The explanation shows that the learning process leads to the goals of competence to be achieved by learners, where they will gain a certain ability. But they will not be able to gain that ability if not through the learning process. Seels and Richey (2002: 189-190), so the use of multimedia learning can be used effectively and efficiently need to follow the following steps, namely, preparation, implementation, and follow-up.

Prepare Before Using the Media

In the utilization of instructional media, preparation before using media. The existing strategy for media use works well. Prepare technically preparatory conditions along with laptop and LCD projector screen. Preparation of Syllabus / RPP (Lesson Plans), to collect the necessary data, prepare the presentation in the form of animated images, video and sound in conveying material, on strategy implementation, the teacher explains the subject matter which has been prepared first. If there is insufficient material or support / add discussion topics, the teacher download site "Charm" at that time, because the school provides a hotspot of the way, the material is presented to learners, preparing questions and tasks for learners at the end of the lesson, and conditions The last class set up (environmental studies), so that when using the media then, will not be disturbed on things that reduce the media smooth use. If the media used together (in groups) should be learning objectives that will be achieved first. It is important that the attention and thoughts of the learners are focus and the learners are motivated to complete the learning objectives.

Implementation to Use Media

During the implementation of strategies in media use, the thing to note is the atmosphere of tranquillity. Distractions that may interfere with attention and concentration should be avoided. Preferably during the presentation of the media that run cultivated atmosphere conducive. In addition to teacher activeness as a tutor during the learning process will stimulate the attention of learners to the media used. During the execution sometimes teachers form group discussions, so that the material that has been presented can be discussed directly with the discussion groups of students and students. In addition, conducted a question and answer session between students and teachers, for material that is considered still not understood learners.

Follow-Up Activities

Means follow-up activity is to see whether the established goals have been achieved and to build an understanding of the subject matter presented. This can be done by concluding at the end of the lesson, giving the test. In addition to the oral test after the material is presented. It is possible for teachers to assign individual or group tasks related to previously taught material.

Multimedia

Even though there had been several rule-based NER systems for Malay language, the lack of Malay resources is still at large. Among the identified linguistic NER research that had the closest similarity to Malay NER is Arabic (Naji & Omar, 2012; Oudah & Shaalan, 2012) and Chinese NER (Zamin et. al., 2012; Liao, 2011). Both languages have their words composed in unique characters rather than the conventional alphabetic schematic ruling that had been encased in a majority of the world's languages. Multimedia is the use of multiple consecutive or simultaneous media / simultaneous presentations of self-study programs (generic terms). The multimedia system consists of a combination of traditional media, or it can be combined in a multimedia computer as a tool for displaying text, images, graphics, sound and video. During the 1950s multimedia was used in effort to incorporate a variety of still media and motion to enhance educational effects.

Modern multimedia understands multimedia that is not only concerned with incorporating various media formats into the structure of the program, but each element of the media must complement each other, so multimedia is a more entity that has more value than just adding each piece. Examples of multimedia in education and training are slides with synchronized audio, videocassettes, CD-ROMs, DVDs, World Wide Web and virtual reality (Heinich, Molenda and Russel, 1986). The discussion above shows that the multimedia impacts of individual learners respond differently to different resources and methods, so the opportunity to reach individuals increases as the media is used. Besides multimedia also try to simulate closer to real world learning condition (real world learning), multi-sensory world, and overall experience (all-in-one experience). According to Phillip in Winarno, et al (2009), states: "Multimedia component Characterized by the presence of text, images, sounds,

animations, and videos, some or all of which will be compiled in several coherent programs." Multimedia is a combination of text, Images, sounds, animations and videos, some of these components or all components are incorporated into a coherent program. Nicholson (2006) explains that Flash is a powerful tool for creating something from simple animations to interactive applications and simulations. It is also suitable for creating user interfaces for external data and streaming media. He explained about making animation with simple movement as an interactive application, simulation, and for streaming needs, can use macromedia flash application as the software used.

According to Mayer (2009), multimedia presentation material refers to the presentation of messages using words and images in the form of verbal and visual. Multimedia learning process can be referred to as information acquisition (multimedia message is information sender tool), or as knowledge construction (multimedia message is as a tool to make reasoning). Other learning media, multimedia continues to function as a tool, method and approach used to build communication between teachers and learners during the learning process.

Multimedia learning presentations can be categorized into five groups as follows:

Tutorial

The format of this dish is in the delivery of multimedia learning materials done in the tutorial, as do the tutorials done by teachers or instructors. The information presented contains the design of text, images, whether still or moving, and graphics. At the right moment, when it is assumed that the user has read, interpreted and absorbed the concept, posed a series of questions or tasks. If the correct answer or response, then proceed with the next material. If the answer or response to each user, then the user must repeat to understand the concept, or in certain parts only (remedial). At the end will usually be given a series of quests which is a test to measure the level of understanding of the concept or material presented.

Practice

This format is intended to train users who have skills in skills or strengthen the mastery of concepts. This program provides a series of problems or questions that are usually displayed randomly, so each use of the problem or question that appears is always different, or at least in different combinations. This program comes with the correct answer, with explanation so that the user will be expected to also understand a certain concept. At the end, the user can see the final score he achieved, as an indicator to measure the success rate in solving the problem.

Simulation

Multimedia learning with this format tries to match dynamic processes that occur in the real world, for example to simulate aircraft, where users perform activities such as flying an airplane, running a small

business, or controlling a nuclear power plant and others. This format basically seeks to provide experienced real-world problems that are usually associated with risks, such as a plane that will crash or crash, or nuclear disaster.

Experiment

This format is similar with a simulation format, but is aimed more at experimental activities, such as labs in science, biology or chemistry labs. The program provides a set of tools and materials, so users can experiment as directed and then develop other experiments based on the instructions. Users are expected to finally be able to explain the concept or phenomenon based on the experiments they do virtual.

Game

Games presented here still refers to the learning process and the program is expected to happen multimedia formatted learning activities while playing, thus users do not feel that they are being studied. Finkelstein and Leete (2006), suggests using Flash 8 you can create simple animations to add your web pages. You can also create entire web pages or sites using flash and combine text, graphics, interactive buttons, and animations.

FUTURE DIRECTION AND CONCLUSION

Communication technology will always evolve from year to year. This development is due to the influence of globalization and the impact of developed countries are increasingly sensitive to communications technology. The teenagers cannot fight the technological advances. All they can do is keep up with technological developments year after year and take advantage of the positive impacts of these communication technologies. Parents should always teach and guide their children to be able to use communication technology well. The development of technology today cannot be separated from the life of the community.

Various information that occurs in various parts of the world now we can know directly thanks to technological progress (globalization). If we first know the saying "the world is not as wide as the leaves of Moringa", now that proverb should change; "the world today as wide as the leaves of Kelor", because the rapid access of information in various parts of the world make the world as narrow because we can see what happens in America for example, even though we are in Indonesia. The technological advancement caused such a huge change in the life of mankind with all its civilization and culture. These changes also have a profound impact on the transformation of existing values in society. Especially people with culture and customary eastern like Indonesia.

Currently in Indonesia we can see so much influence of technological progress towards cultural values in the embrace of society, both urban and rural (modernization). Technological advances such as

television, telephones and mobile phones (HP) or so-called gadgets, not only hit the urban community but also have been enjoyed by people in remote villages. As a result, any information that is both positive and negative can easily be accessed by the public. And in admit or not, slowly start to change the pattern of life and thought patterns of people, especially rural communities with all the image that became their trademark. This situation has influenced people's lifestyles and mindsets, especially among teenagers.

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