

TECHNOLOGY AND PEDAGOGY: VIDEO TECHNOLOGY FOR LEARNING

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ABSTRACT

This paper is part of a study on the use of multimedia technology in learning, particularly video technology. Video as a medium of learnings defined as objects that can be manipulated, seen, heard, read and then discussed. Media video is actually just the same props such as tools or other media, however without the proper method of learning this media certainly can not deliver maximum results in learning outcome. In the learning method "Flipped Classroom" video media is a very important component in addition to their own learning strategies. In this paper we described various ways of making instructional videos, ways of presentation, various software required and its relationship with learning outcomes in learning using "Flipped Classroom" method.

Keywords: Video Learning, Flipped Classroom, Video Technology.

INTRODUCTION

Flipped Classroom is a teaching method that flips or switch activities that are usually done in class, namely the presentation of the material or theory with activities outside the classroom, such as homework. In this method, students are forced to learn the theory before the lecture held, meaning that the students learn the material at home. This method is actually not a new method. All these time, teachers always give assignments to students to read and learn the material in advance before the actual class/session is held, but only a few students who are willing to read material that is usually in the form of a book. The presence of multimedia technology changed the way students learn. In order to get students interested in learning the material before the lecture, the materials given to students in forms of assorted digital media, such as in the form of Word, PDF, PowerPoint and will be discussed in this paper which is in the form of video media. One also need to remember that although in "Flipped Classroom" method video media is an important component, the learning strategy in this method should also be carried out in accordance with the lesson plan that has been set initially. Students are required to learn the material before lecture, so that by the time the lecture is in session, the students are ready to be

involved in active learning activities (discussions, role plays, simulations, exercises), where lecturers act as facilitators (student centered). In this method, students are expected to be more proactive to improve absorption of the lecture materials. Furthermore, switching of these activities is expected to resolve the variance in teaching material absorption capability of the students. Students can learn the materials at their own pace and be able to relearn the materials until they understand.

Lecturer will possess more time during classroom activities for coaching.

Should a lecturer haven't produce the material, they should be able to acquire it from websites such as: Sophia Learning Network (www.sophia.org), Khan Academy (www.khanacademy.org), National Geographic (www.nationalgeographic.com) and many more (Dajalaksana, and Chandra, 2012)

The most common problem with most of the online material available is that they are only available in English, while students prefers that it is presented in the language they use daily, and preferably also if the lecturer presents the material is relevant subjects.

In this research, the author applied the "Flipped Classroom" method in one semester worth of Electric Circuits courses. Various instructional video used in this study are: (1) Using a video taken from the internet (www.digital-university.org), and (2) create its own using Powerpoint and Camtasia, (3) creating a video presentation showing blackboard close-up, with the presenter's voice.

LITERATURE REVIEW

Video is derived from the Latin, video-vidi-viso that means seeing (have eyesight) able to view (K.Prent, 1969: 926). Videography is a medium for recording a moment / event were summarized in a dish of images and sounds that we can enjoy in the future either as a memory or as study material to learn what has / have occurred. Videography itself is widely used by various groups for various purposes, ranging from individuals to groups.

Kinds of video based on purpose:

- a. Story Video that aims to explain the story
- b. Documentary that aims to record an event or events in real life
- c. News which aims to expose news.
- d. Learning which aims to provide learning materials that are easily absorbed and can be played back.
- e. Presentation that aim to communicate an idea or ideas

Videos have certain characteristics that made them often used as learning media. the advantage of video as a learning purposes is they attracts attention even in brief duration. Demonstration or Complicated work process can be prepared and recorded in advance, so the Presenter can concentrate on the presentation. Besides saving time, and recordings can be played repeatedly, video also supplements the basic experiences of media for the students as they read, discuss, practice, etc. Also video can accurately describe a process which can be watched repeatedly if necessary.

The influence of the video affect us faster than any other media. Because the broadcast forms the focal point of light, so it affects minds and emotions. In the process of teaching and learning, the focus and affect emotions and psychology students is indispensable. Because with that students can easily understand the lesson. Video media course delivered to students should be concerned with learning objectives.

The Disadvantage of video media is the one-way nature of the communication that must be balanced with other forms of feedback. Video also requires expensive and complex equipment. Online video moreover, need fast and stable internet connection. Besides the procurement of equipment, making video generally require a substantial budget and a lot of time. However, with today's technology and advancements in manufacture, quality of video is now more managable to do. However, of all types of instructional video is one of the media that stands out. According to Daniel L. Schwart & Kevin Hartman, designed to explain the use of video can be used both for learning, assessment, and provide a comprehensive framework to categorize the use of video into a variety of learning outcomes, namely: See, Engage, Doing and Saying.

See - Video can help people see things they could not see before. Using this principle, video makers may take the approach of familiarity (an object or a concept introduced to the audience) or wisdom approach (help point the details that people might not notice). "For the purpose of helping people to see detail and impressed, as what is visible" (Goodwin, 1994).

Engage - Develop audience interest in participating in learning activities; this can be done by developing the intrinsic or extrinsic motivation (Lepper & Greene, 1978). Develop intrinsic motivation can be done through the curiosity of the audience, or display the real-world relevance. Can also use the video to work instructions, trigger discussion, or activate prior knowledge. In terms of assessing the engagement, one of them by trying to investigate the audience wishes to engage in subsequent learning, or search for a particular resource (who showed interest in learning more). Another interesting idea is to assess the differences in learning or learning-related behavior lessons given after the video.

Do - which is to change attitudes or skills. The idea is for the audience to understand the model or what is the video guide. For a complex skill, presenter (video makers) may have to give an example in performing a skill or a demonstration. In terms of valuation, one can observe what the subject did after seeing video designed.

Expressed - this requires the display to obtain oral or explain knowledge, for example, the facts and explanations. Bransford, Franks, Vye, and Sherwood (1989): people remember facts better when the facts come as a solution to an individual problem has been sought not as a bald statement. Using more than one analogy to convey the point recommended as people tend to focus on the surface features (Gick & Holyoak, 1983). To assess the facts, using a given task (including free or cued recall); to assess the ability to explain the phenomenon, using tasks that require problem solving, applying the ideas in the new situation, predictions, taking the viewpoint, and build arguments.



Figure 2 An example of the display showing a video presentation presenter orally delivered material

b. Video presentation of audio-visual displays of demonstrating something that is guided by the presenter.

This type of video is same as in point ‘a’’, however presenter not only in static position, but moving around, writing on blackboard, demonstrate something, using tools, in order to explain the material clearly. In this type of video the recording process using static and dynamic angle, so could take the overall atmosphere of the room as well as half of the body such as the delivery of news on television. In Figure 3 is an example of angle taken.



Figure 3 Example of a video display the presenter orally delivered and demonstrate the material

c. Video presentation featuring blackboard in close up, supported by the presenter's voice. This type of video recording video presentation with detailed explanations on the board. Presenter explain verbally while write or draw something on the board. The recording using static angle or or follow hand movements while presenter writing or drawing on the blackboard.

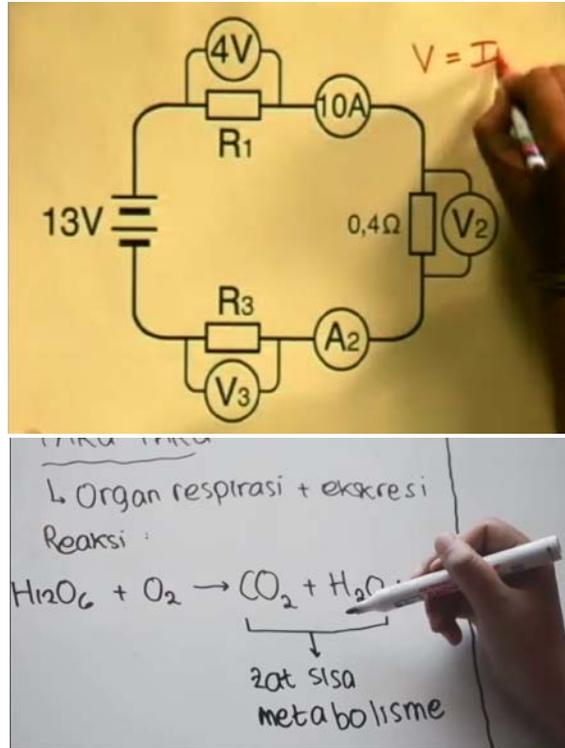


Figure 4 Example of a video display that displays the presentation presenter orally delivered material and taken close-up on the board.

d. Video presentations in form of a documentary film.

This type of video is a presentation video recording recorded using a specific storyline with the merger of several techniques of presentation and use special effects to help the quality of the delivery of material. Making this video was done like making a short film, begins with making the script, storyboard, casting even the players involved, and the use of sophisticated video editing technology. Figure 5 and 6 is an example of the appearance of the video.



Figure 5 Example of a video display that displays the presentation presenter orally delivered material and edited text adjacent to the picture to explain the material

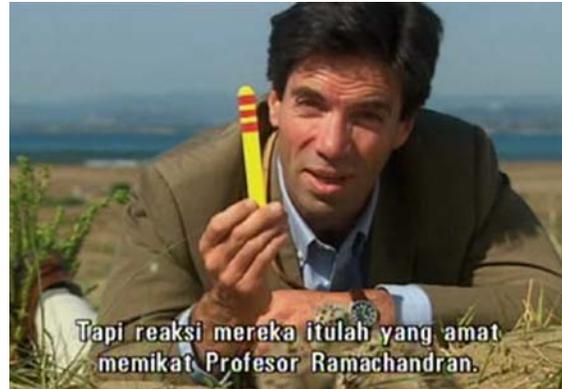


Figure 6 Example of a video display that displays the presentation presenter orally delivered material with subtitle

2. Video Screen Recording

Video Screen Recording

Video screen recording or also called video screen capture or screencast is a digital recording of a computer display that is often accompanied by a guide narration recorded using a microphone. Usually this type of video is using as video tutorial. There are many software that can be used to create video screen capture, such as Camtasia Studio, Screen Recorder, Icecream, ActivePresenter, Ezvid, Snagit, Sreencast, CamStudio, and so on.

This technique is basically to record activity on a desktop computer equipped with a sound explanation through the microphone when recording the activity on the desktop. Sound editing can also be done at the end of the video recording. The use of this sreencast technique can be applied in several kinds.

a. Power Point Presentation

This type of video recording display on the monitor of the software used for the presentation. Usually presenters using Power Point, or could also use other software such as PDF file or another. Recording is done by running the Power Point slides accompanied by explaining verbally recorded with a microphone. At the end of the video recording, the result is in the form of Power Point slides with audio. In Figure 7 is an example of the appearance of a video slide Power Point presentation files.

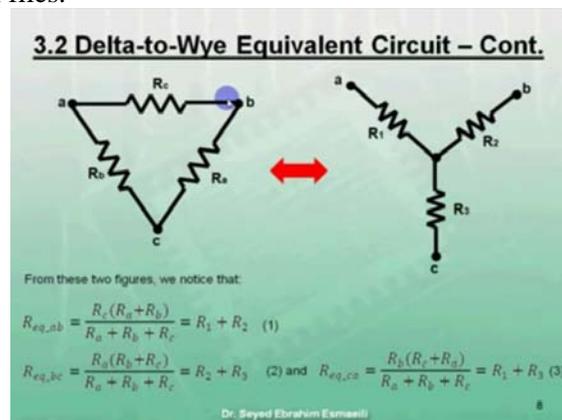


Figure 7 Example a video that display a PowerPoint slide presentation recorded along with the presenter's voice.

b. Tutorial Software

Purpose of this type of video is for tutorial. Usually this type of video are used to guide the use of software to perform editing, such as Photoshop, Flash, or other complicated software. Recording is done by execute the software and accompanied by explaining verbally recorded with a microphone connected computer. Thus at the end of the video recording of the results of a visual display in the form of software with movements cursor to indicate the steps to do editing or creating something, and audio display is the voice presenter explained. In Figure 8 is an example of the appearance of the tutorial video editing with Photoshop software.



In Figure 8 is an example of the appearance of the tutorial video editing with Photoshop software

c. Using Tool Pen Tablet

In this type of presentation video recording monitor display using pen tablet. Presenter can write/draw on certain software manual to explain something. So that in the end result in the form of a video recording software with a visual display showing the movements of the pen tablet cursor to write, draw, or editing, and viewing. In Figure 9 is an example of the appearance of the video material with handwriting by using a pen tablet.

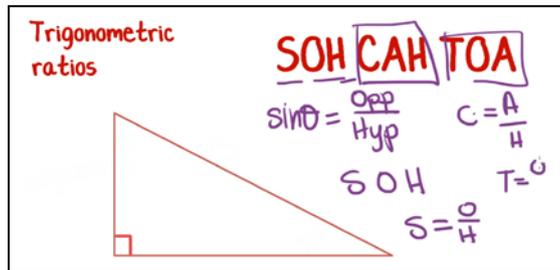


Figure 9 Example of a video display presentations using the tablet pen to write the manual on screen monitors recorded with the presenter's voice

3. Software Video Presentation

This type of video is a video for presentation purposes which developed by several vendors to help user to make presentation video by themselves. User can produce video in an instant, this software facilitate user with some templates. The software example Articulate, Powtoon, and so on. These applications provide a video template with various presentation layouts, for example

presenter character, an additional icon, background, and simple animation that can be combined in a video presentation.

This video is a video that provides a variety of templates to create instructional videos

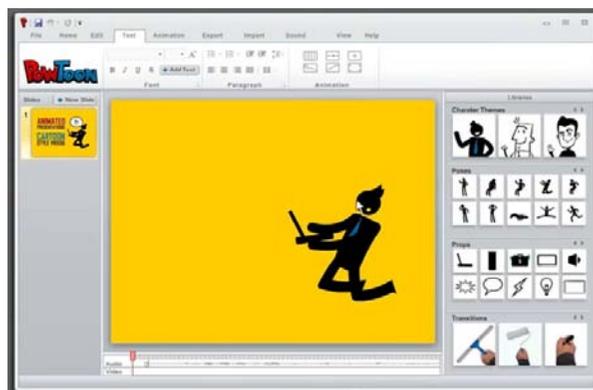


Figure 10 Application using Powtoon

CONCLUSION

This research shows that students prefer video presentation featuring teacher physically both face and voice, which in this study is a video presentation featuring presenter orally delivered material and demonstrate the learning material. Thus the students felt as if the teacher and them were in class. But in terms of Flipped Classroom learning is still not successful because some students still think that studying the material either in the form of video is still a homework. So it should be considered another attempt in order to motivate students to the learning objectives to improve learning outcomes can be achieved.

Regardless of all the benefits that if it can be obtained from the use of video media in the learning process is to assist faculty in achieving the effectiveness of learning, especially in practice the majority of subjects. Then can maximize the achievement of learning goals in a short time because of video media can stimulate student interest in learning to be more independent.

With video media student learners can discuss or ask for an explanation to his/her classmates, more concentrated, more focused and more competent. In addition, students become active and motivated to practice the exercises as an example of the media is very clear video using audio visual very easily captured and interesting.

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