Proper Use of Multimedia in Teaching

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Abstract—Teaching has recently been reaching new frontiers as technology has improved and now offers a great variety of tools to be used in the classroom. From the blackboard to video recorded interactive presentations, several teaching methods can be used to bring additional content as well as forms to represent it. This paper analyzes what multimedia teaching means and what are the tools which can be used to meet educational targets.

Multimedia, Teaching, Methods

I. INTRODUCTION

If not so long ago, blackboard, reading aloud and discussion were the only weapons of the professor, the development and generalization of computer based tools have been making it easier to teach.

Four types of learners can be identified in the classroom and each auditory, visual, kinesthetic and intellectual learners have their specific way of learning fast and efficiently. Using multimedia in a course such as animations, videos and interactive systems, allow the speaker to reach everybody in the audience.

Though, using those elements requires a knowledge of how they can be intertwined and what should be their proportions.

II. DEFINITION

Multimedia is defined as a matter with different content forms which can either be computer or physically based. In the computer field are:

- slides
- videos
- animations
- interactive parts
- applications

In the physical field are:

- blackboard
- experimentation
- outdoor activities

The two main styles of multimedia material are linear and non-linear depending on the ability to browse the content.

III. LINEAR

Linear is like an old fashioned course using the blackboard, the content is displayed in a specific sequential order. These type of presentations are meant to be followed by everybody at the same time. Thus, it prevents students from accessing the content in an exploring manner, the speaker keeps the control of the on going material. Nevertheless, the use of videos, animations and other media still can be appropriate and much simpler than non-linear multimedia support.

For instance, animated diagrams are more intuitive than listening to the description of the changes. It does not necessarily means that no explanations are required but that the concept is likely to be understood by everyone.

Videos can also be a great media to carry information but still suffers from the fact that it is straight and linear. One advantage of video is that it prevents the “demo effect” to show up as the demonstration could be recorded and then displayed to the audience instead of being reproduced with a possible failure.

IV. NON LINEAR

Non-linear content is more free in the sense that users can browse the content as they want, go back and forth between parts and play videos and animations more than once. As an example, such devices can often been found in museums, adding to the static aspect of the museum which can be plied for children a more vivid component. In addition, small tests and quizzes can appear at some checking points allowing in certain specific cases a back browsing to search for help within the last examples and explanations.

If non-linear presentations are focused on the individual rather than the audience in general, it could have a bad impact resulting from the fact that it could have been done out of the class, giving the impression that the course was useless.

V. PROPORTIONS

Though, technology allow teachers doing both linear and non-linear presentations using a central screen for the linear part and student’s pad for the non-linear part. Considering that everyone in the audience has a laptop or a pad, it could be used as a side tool for a lecture.

However, mixing different supports must not be done often because it could lose students. One way to solve the problem is to stick with two or three different media for all the course.

VI. BENEFITS

Having multiple types of learning technology provides several advantages. First, as everybody has to use computers for life and job introducing tools during courses gives a small overview and an intuition of how applications work. Not only
could it be a first approach to technology but it develops other skills than those needed for the course. For some students, it could even be easier to use teaching tools because they imply creativity and do not only focuses on the topic. Having participants solving little problems by themselves instead of having them watching the teacher doing it for them can be rewarding and generates a feeling of self esteem which could turn in an increased motivation.

Moreover, using multimedia could lead the students to use external resources and thus develop info searching and synthesizing skills.

To finish, even for professors keeping up with technology and teaching methods is a great good. Furthermore, the use of complex and exotic tools to teach have teachers striving to analyze and synthesize complex contents. Though, the main drawback is that it results in an increase of course planning and preparation time.

VII. Conclusion

So far we have seen that multimedia can take either linear or non-linear form which both have specificity and respective difficulties and advantages. However, from a student point of view, teaching with multimedia is probably the broader and better tool that professors can use because for both help the understanding of viewers.