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PowerPoint unleashed: the power of branching to create thought-provoking, problem-solving, critical-analysis oriented activities

Abstract

Microsoft PowerPoint is a powerful presentations software which full potential is not being exploited in the learning settings yet. This presentation will demonstrate how its branching features can take advantage of nonlinearity to create more engaging, motivating and rewarding activities. The principles presented here can be then extended to other, similar presentations programs.

Introduction:

Microsoft PowerPoint, a proprietary system intended initially to create a visual support to presentations, has been traditionally used as an electronic, cutting-edge substitute for the good old overhead projector and print transparencies.

However, there is much more to it than the simple, basic, linear succession of text, images, even sound or video. Although PowerPoint has motion and sound, something that overhead transparencies lack, using that program to create linear presentations is only part of the whole story.

Branching at work:

One of the main characteristics of PowerPoint is its ability to handle hyperlinks and hypertext. It is precisely this feature, i.e. the possibility of creating multiple paths to meaning and learning, that has converted, for instance, the World Wide Web, into the learning environment of the turn of the century. Any image, any portion of text on a webpage, can be converted to a link, that will take the visitor to a related site, to an explanation of the meaning of that word, to a reference to a certain author. This ability to put information available at the click of a mouse has been recreated in the latest versions of many desktop programs, like word processors, spreadsheets, and presentations programs.

If we could disassemble a website, and draw a flowchart to show the relationship between its parts, i.e. how a piece of text is linked to further information on that topic, how a picture of an author is linked to his/her biography, we would be able to see branching in action.

For most people, however, the way the entire site is hyperlinked (in other words, how branching has been designed), is not relevant: branching should be seamless, and it should be done in such a way that the visitor is taken from one place to another in what he/she perceives as a natural, uninterrupted flow.

PowerPoint recreates this ability to branch contents perfectly. There is a tendency for users to see a new technology as a modern version of the previous one, and the new capabilities and possibilities are many times just not exploited. For example, when computers were first introduced in the schools, they were mainly used for drills and practice, something that could be perfectly done with paper and pencil. If used by administrators, those computers were used as electronic typewriters, doing the same job their mechanical counterparts could perfectly do.

In the same connection, in general PowerPoint has had the same role overhead projectors have had, i.e. the presentation of a linear sequence of transparencies. This is true to the point that, in case there is any kind of hardware or software problem, many presenters have gone into the habit of carrying a printed version of their PowerPoint presentations, so that they can use them with opaque or transparent overhead projectors as an alternative medium.

While this kind of presentation is appropriate if you are addressing a certain type of audience in a specific type of setting, a step forward could be taken if the possibilities branching offers were exploited.

The power of branching:

Although the type of branching found in PowerPoint may not be so powerful as the multiple possibilities webpages offer, it nevertheless has a clear potential as a useful instrument to be used in a learning setting.

Branching, for instance, supports those kinds of activities that require thinking skills, problem-solving skills and analytical skills. The starting point of a branch is represented by a case study, or a scenario, or a problem, in which learners have to analyze contents, decide on different courses of actions, and take a decision. Then the process of branching starts. For each decision taken (with a click of the mouse on the corresponding link), the learner is then presented with the consequences of that decision. This consequence may be correction and feedback, or it may be a new version of the same situation, as it stands after the decision made by that learner.

Example one: A statistics class is presented with concepts like mode, median and media. The instructor presents some combinations numbers, and asks what would happen to the mode, median and media if some selected numbers were deleted. Several possible answers are presented on the screen. If the wrong answer is chosen by the students, when the instructor clicks on it, correction and feedback will be presented. The screen could then include a "back" button, or a button to jump to the next example.

Example two: a science class is learning about hurricane preparedness and what kind of measures to take during hurricane season. Several tips are given, and students can choose (maybe after some group discussion), what pieces of advice they would follow. The different options chosen can be clicked on by the instructor, and each option could pose further questions, creating several layers, until students can decide whether that was a good decision after all. For instance, if they chose "Store canned food such as beans, peas and carrots", and the feedback is "After a hurricane, power may be out for several days. How would you cook your canned food?", then they realize that, they either need a gas cooker, or they need to get some other type of non perishable food.

Conclusion:

These simple examples show the possibilities of branching to involve the audience in a more rewarding, motivating and exciting kind of activity. PowerPoint can be taken to a further stage of usage if its branching features and capabilities are taken into account to produce and support more engaging learning activities.