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ABSTRACT

This paper gives an overview of the Inspiration Software, a package that is designed to facilitate the construction and use of concept maps in the classroom. The first section discusses concept mapping, defined as any graphic production that is constructed specifically to represent knowledge. The following basic functions of Inspiration are then summarized: (1) diagramming; (2) rapid fire, i.e., a function that makes it easy to get ideas down as fast as possible; (3) moving a symbol; (4) adding unconnected ideas; (5) changing symbol shapes; (6) drawing a link; (7) adding text to a link; (8) scrolling and magnification; (9) formatting symbol text; (9) printing to fit; (10) switching between diagram and outline views; and (11) importing and installing graphics. (Contains 11 references.) (MES)

Concept Mapping in the Classroom with Inspiration Software

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Abstract

Concept mapping is a technique that allows one to understand the relationships of ideas by ccreating

Concept mapping is a technique that allows one to understand the relationships of ideas by creating a visual map of the connections among these ideas. It is a structured process that is focused on a topic or construct of interests. It involves input from one or more participants that produce an interpretable pictorial map or representation of the ideas produced. The pictorial view or concept map as it is called not only displays a visual product, but it also shows how the ideas or concepts depicted are interrelated. (Trochim 1999) When used with students, it allows them to see the connections between knowledge they already possess and how this knowledge connects to new knowledge. It can also be utilized to organize a myriad of ideas in a logical kind of structure. Another advantage for educators using this process is that it is the type of visual language process that encourages students to operate at all six levels of Bloom's Taxonomy of the Cognitive Domain.(Bloom 1956) (Gaines, Shaw, 1999) (Novak and Gowin 1984) Concept mapping is a useful and very powerful visual-thinking tool that transforms information into knowledge. Concept mapping is very helpful for the organization of information and development of higher level thinking skills, thus deepening knowledge and facilitating clarity of thought. (Concept Mapping Companion 1998)

Concept mapping lends itself to a variety of interesting applications and products of unique design, therefore for the purposes of this paper, a broad definition of the procedure referred to, as concept mapping will be utilized. Concept mapping will include virtually any graphic production that is constructed specifically to represent knowledge.

Concept maps illustrate the shape of the structure, the relative importance of the information and ideas, and the way that the information relates to other ideas. Concept maps can be used to summarize information from different research sources, to think through complex problems by viewing the overall structure of the subject, as a quick way to review, and to associate ideas and make connections that would be otherwise too unrelated to be linked. (Mind Tools, 1995). Another strong advantage of using concept maps is that once a student has developed a concept map, the organization and details of the map will tend to be remembered for a much longer period of time than is usually the case when trying to remember the material in text form.

Concept maps have a very wide application. They can be used in many fields to facilitate a visual representation of knowledge structures (Concept Maps 1999) but, in the field of education, it probably began with Ausubel's learning theory treatment of advanced organizers and meaningful learning which holds that in order for meaningful learning to take place, students must relate new knowledge to relevant topics that they already know, that teaching strategy in and of itself does not necessarily result in meaningful learning (Ausuble1963)

Ausable's work prompted Novak (1977) at Cornell University to develop an extensive system of concept maps, which have been applied in the evaluation of students' learning in the school system in a variety of ways. (Lambiotte, Dansereau, Cross and Reynolds, 1989) His primary purpose was to provide a framework in which learners, rather than teachers, could be the cause of learning. Novak's vision of concept mapping was to provide a locus for student-teacher interaction that would empower students to take the responsibility for their own knowledge. He believed that teachers who were freed of the responsibility of causing learning could concentrate on the achievement of shared meaning. Novak concluded that meaningful learning involved the assimilation of new concepts and propositions into existing cognitive structures. (Concept Mapping Companion 1998)

However, one drawback of developing concept maps in the past has been that they had to be hand-drawn. Today we have software that is capable of generating concept maps more easily and efficiently. There are a number of software programs and tools that are very useful in producing computer generated concept maps. Some of them are, Axon Idea Processor, by Chan Bok, Cmap 2.0 for Macintosh, Decision Explorer (formally called COPE) by

Banxia Software, Sem Research Group, maker of Sem Net, MindMan by Michael Jetter, CoCo Systems, maker of VisaMap and InfoMap (Lite), Activity Map, by Time/system int., Text Vision Tex Net, by Piet Kommers. SMART Ideas, by SMART Technologies, Egle Magic, by MindMapper, and Inspiration Software, Inc, maker of Inspiration.

While Inspiration software will be the focus of this paper, it is not the intention of this paper to evaluate or compare the various software to Inspiration software or any other software. That would beyond the scope of this paper. The purpose of this paper is point out how effectively the Inspiration software can be utilized to promote the use concept mapping in the classroom.

Inspiration Software (1999) is a software package that is specifically designed to facilitate the construction and use of concept maps. It is a powerful visual-thinking tool that helps clarify and organize ideas and information. The research supports visual learning strategy as one of the best ways to teach thinking skills. Visual learning techniques help students to think clearly, and to process, organize and prioritize new information.Visual learning techniques help students clarify thinking. Students can readily see and understand how ideas are connected and how the ideas are grouped and organized. Visual learning also reinforces understanding, since students recreate in their own words, albeit graphically. As a result they tend to assume and appreciate ownership of their own ideas. Additionally, as diagrams are updated in class students gain insights into how new knowledge is integrated and how misconceptions of knowledge are identified.

The purpose of this paper is to give an overview of the Inspiration software program and relate it to the construction of the powerful visual learning tool, the concept map without elaborating on specific techniques, which can be viewed in the Inspiration Manual.

The Basic Functions of Inspiration That Can Facilitate the Construction of Concept Maps

A. Diagramming: Helps you to quickly record ideas and map out concepts.
B. Rapid fire: Makes it easy to get your ideas down as fast as you can think of them. Inspiration can automatically

C. **Move A Symbol:** A symbol can be moved at any time and when it is moved, Inspiration automatically adjusts the link.

D. **Adding Unconnected Ideas:** Sometimes you may have an idea but are not sure how to fit them into the diagram. The program allows you to add the idea anywhere in the diagram and adjust it later.

E. **Changing Symbol Shapes:** Inspiration has a variety of built-in symbol shapes that can be assigned to the diagram at any time and changed with relative ease at anytime.

F. **Drawing a Link:** Symbols are connected with links automatically, but unconnected links can be connected manually at any time and the program will make the link precise.

G. **Adding Text to A Link:** When additional information needs to be added to a connection, as is the case in many concept maps, Inspiration does it easily.

H. **Scrolling and Magnification:** Inspiration lets you move the diagram around within the window or zoom in and out on the diagram.

I. **Formatting Symbol Text:** Text font, style and font styles can be set for the entire diagram, or selectively.

J. **Printing to Fit:** The print to fit option reduces the diagram so it will fit on one page or the number of pages specified.

K. **Switching Between Diagram and Outline Views:** You have the option of working either in the Diagram view for visual diagrams or the Outline view for your text.

L. **Importing and Installing Graphics:** Color or black and white graphics created in other applications can be imported into you Inspiration diagram or installed in the Inspiration User Symbol menu.

A thorough grounding in the techniques of concept mapping and the Inspiration software program will provide all the foundation necessary for utilizing concept mapping successfully in the classroom.

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