Supporting Comprehension in Interactive Technological Environments

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(Henderson, 1963). Subjects who were experienced at setting purposes for reading on their own were more likely to be successful in attaining purposes supplied by someone else. Blanton, Wood, and Moorman (1990) suggest that in all reading circumstances students should be generating a purpose for reading and that this setting of purpose will enhance any post reading discussion. Thorndike (1917) found that reading is an act of reasoning. The reader often goes beyond the text and uses prior knowledge to create meaning . Activation of prior knowledge is necessary as a prereading activity and assists the reader in answering the question, "What do I know about this and what would I like to know about this?" Thus, the reader establishes purpose. The simultaneous action of several processes that occur in both reading and writing as hypothesized by Tierney and Pearson (1986) point to reading as being an active creation process. Research in graphic organizers helps to illustrate that both purpose and reasoning can be enhanced when words and their relationships are represented in a visual structure that resembles the reader's schema. Herber and Barron (1973)

When authoring an integrated media resource one of the most difficult hurtles is that of conceptualizing the branching that takes places as several resources are connected to one document. Individuals coming from linear text based environments find branching uncomfortable and difficult to visualize. Yet one of the pleasures of creating such a project is that multiple options are offered to the user. People see the structure of relationships among keywords in a very individual way. This also applies to an individual using a finished integrated media resource. Exploration of this resource takes place in a way that is meaningful to the user. The branching of the resource allows the user to make choices and follow the path of greatest

interest. Creating this resource from scratch calls for marshaling prior knowledge and establishing a purpose before switching the computer on. A conceptual map or flow chart of the resources to be used is a very important first effort, much like the first draft the reader creates when scanning text.

The marvelous invention of sticky notes allows the author of a resource to create a map on poster board, a wall, or a table. The creation of this rough draft helps to activate the author's prior knowledge and establish the purpose of the project. From the beginning the author must ask "Who is my audience and what information do I want to make available to them? What knowledge and information do I expect them to bring with them before using this resource? What do I think are the most important key ideas and how will I structure this resource to make those available to the user?" The author can then begin the design by illustrating the schema they have of the resource by creating a sticky note for each computer screen then placing these notes on the poster board. Most often a few introductory screens are presented before options are offered to the user. Once a screen offers options, the author must think about the resources to be used for that option and whether other options will branch from within the original options. As each note is created and placed, the author can make adjustments as he or she moves further into the design. If something doesn't fit (or flow), the note or notes can be moved with impunity. Throughout this process, the author is creating meaning, and is constantly revising for clarity. When the drafting process is finished and the computer work begins, the map helps the author maintain a sense of where he or she is in hyper space, not unlike the "You Are Here" maps found in vast malls. The map is always available for revision as the

integrated media resource grows and changes during the act of creation . All revisions should be made on the map as well as in the program as the author creates the resource.

Once the project is completed it is important to check for closure. Whether it is the teacher creating the resource, or the students themselves, a post-project check helps to create clarity of thinking. Often there is a difference between how the project was initially envisioned and the final draft. A good question to create clarity is "How is your first draft different from the final draft?" Answers to this question can lead to another; "What did you learn that changed your mind?" A question that is coming from the sense that a piece of art is never quite "finished" would be; "If you had more time, what would you add to this resource. How would you change it?" Finally; "What will you do differently next time?"

The use of sticky notes as a hands on opportunity to create a map can be transferred to the text only environment as students deal with content area reading, story mapping, or accessing prior knowledge as a prereading exercise.

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