Interactive Children's Literature: MovingFrom Print to Electronic Literacy

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New computer software allows children to take ownership of a story they are reading. Students change the plot, participate in the action, choose a role as a major or minor character -- or simply step aside and change the direction of the action. The combination of print, computers, visual imagery and personalized action is a strong motivation for learning about all four. Motivation is one thing, effective instruction is another. To be effective as an instructional tool, computer controlled literature must pay careful attention to both technology and instructional theory. One thing is certain, the potential is there for powerful intellectual and emotional experiences.

Interacting with literature, by entering the story, helps students have more intimate contact with the transcendental values of literary concepts. Analogy and metaphor are just two examples of intellectual tools taught through literature -- both skills can be amplified through

interactive computer controlled reading. Participatory stories can be an important source of knowledge for all our students, but this technique is particularly critical for the increasing percentage of our population (now nearly one third) that doesn't respond well to traditional print media. The technology could allow us to do for all of our population what has already been done for the fortunate--provide a connection to a rich literary past, present, and future.

Revitalizing Reading with Interactive Literature

Computer-based technology gives the potential for enhancing print and going beyond the passive nature of the "Gutenburg revolution" (the printing press) to a new concept of literature. When using a simulation like "Oregon Trail", in conjunction with the award winning children's book of the same title, it is possible to gain fresh insight into both the story and the reality of the pioneers' struggles. (1) Connecting already available simulation software to related books can enhance both.

The best seller "Zork" takes a more direct approach. "Zork" is a piece of recreational reading software that gives a sense of realism to this interactive fiction. (2)

"Deadline" is another participatory computer-based novel that allows the viewer to play the role of a Sherlock Holmes type detective. The entire story is contained on one floppy disk that can be run on a variety of cheap microcomputers. (3) Some of these early efforts ("Deadline" and "Zork") used print almost exclusively. But as the medium advances graphics are being added to the mix. Computer programs are already available that give students sophisticated information more efficiently than books; graphically illustrating concepts that were in the past dealt with by print, musical notation, or mathematical equations. As programming and computer memory expand, "particip-stories" will become more sophisticated, and perhaps will constitute a literary type in and of themselves.

Mapping out Rules Governing a Story

In 1927 the Russian literary critic Vladimir Propp mapped out the rules governing the structure of fairy tales; in 1965 the rules were programmed into a mainframe computer, and in 1985 they were squeezed onto a microcomputer program. These rules can form the basis for an arti-

ficially intelligent expert system. Such expert systems absorb the knowledge from human experts, apply it in different situations, reach conclusions, and interact with the user. From literature to medicine, AI programs are becoming better at emulating human thought--they are now becoming available for microcomputers. In the near future, these artificial intelligence assisted stories will use a rule governed literary program to help students explore and create highly motivating microworlds. Even the inexpensive microcomputers found in schools today have the power to do some of this--allowing the child to play with the text, rearrange reading topics and directly influence the story. With expert systems growing more sophisticated at a rapid pace, the possibilities for various literary dialogues may move from a curiosity to something approaching a literary genre.

A Note of Caution

The passage from the print to the electronic era will have all sorts of unforeseen reverberations affecting our ways of seeing, hearing, reading and being. As we rapidly move into an increasingly literacy-intensive environment we must remember what's happened during other technological shifts. In the fifteenth century print was rapidly replacing handwritten manuscripts. In the rush, printers would make quick decisions as to what was worth saving, and burn the rest. Much of a thousand year old literary tradition was lost in that move from handwriting to print.

In the novel Fahrenheit 451 (4), things were taken one step further with books being outlawed and burned as a form of video took their place. George Orwell, in 1984, wrote about machines that destroyed books and rewrote parts of them for a human audience. Part of his prediction may come true a few years late, with intelligent video-print computer controlled interaction. The real concern her is whether or not we control the process, rather than letting the computer feed us its mode of the "world".

The Goal of Literature Remains the Same

Whatever approach we take in integrating the computer controlled technology into the reading curriculum, the goal of children's literature remains the same: Providing our students with a variety of literary and expository material

that helps them build intellectual tools. This technology can act as a source of meaningful knowledge acquisition and enjoyment--opening doors to a broader world.

The possibility of providing the reader with an enhanced literary experience is there. The interaction is provided by the integration of print, speech production/recognition, and visual images. Creative imagination, working closely with applied technology, can open up new ways of reading and interacting with literary concepts.

The technological elements that are needed to create a new genre of children's literature are in place today. Yet the advance of microcomputers, video disc technology, telecommunications, artificial intelligence, and video-print computer programming has been so rapid that we often fail to intelligently assimilate the possibilities that we create. As the computer allows us to interact with oral, pictoral, and print literature, literacy will take on a new form that fuses with a broader range of learning styles. Computer control of literature will allow stereo sound and print to be interspersed with static images (which can arrest time) and video. As is the tradition of literature and art, this new literary interaction will mirror the technological conditions of contemporary life.

The creative imagination can work closely with the technology and learning theory to cpen up new ways to come into contact with literature. For many of our children who refuse to connect with the traditional printed text, computer controlled literature has a vast illuminative power that can help make the connection to reading and a rich literary tradition. For the majority of the students this same participatory literature may help reading concepts fall into place more rapidly than when print is used alone-- making the literature more vivid and experiential, opening doors to a larger, more informed life.

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