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ABSTRACT

In education, multimedia is being merged with hypermedia and hypertext to create learning situations for students of all types--situations that have implications for communication scholars. As the new multimedia, interactive technologies become more affordable and more accessible, communication scholars will face two interrelated sets of issues: general concerns about ownership, credibility, access, permanence, privacy, and community; and the integration of new practices into current theory and research and/or the development of new theory and research methods. As the new information technologies become commonplace, communication scholars will need to examine their understanding of basic communication concepts such as credibility, audience analysis, and effective organization of messages. Multimedia will force communication scholars to collaborate in their research activities across the subfields of interpersonal communication, organizational communication, and mass communication. (RS)

Exploring the Communication Implications of a Multimedia Future: An Academic Perspective

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INTRODUCTION

> "The time is the near future, and you're a student assigned to learn about ecology. But instead of plowing through out-of-date reports and badly drawn graphs, you're about to take a video adventure. You sit in front of two video monitors, a computer and a new hypermedia program from Lucasfilm. On one screen, an animated cartoon introduces Paul Parkranger, who invites you into his office. Meanwhile, on the other screen, the ranger confides that the duck population is diminishing and he needs you to help find the reason. The evidence is in his notebooks and cabinets, on the screen in front of you.
>
> Using the computer's mouse to move the on-screen image of a tiny hand, you 'open' a file cabinet, take out a folder marked 'Interviews.' Suddenly the other screen fills with the image of a real farmer, talking about the ducks he's watched on his land. The cartoon file cabinet turns out to contain a dozen similar interviews with hunters, naturalists and game wardens -- along with animated maps and articles about ducks. Using the mouse, you browse through the films, text and photographs, letting your curiosity lead the way. In the end, you fashion a theory of what forces are driving the ducks away. This simulates real life: there is no single right answer. But there is a process to learn and it's called thinking. Thanks to the new computer capability, that's one lesson students needn't overlook" (Rogers, 1988, p. 44).

This example from Newsweek describes the future for students but clearly the implications for academics are staggering: not only will students learn differently, teachers will have to teach differently. Perhaps more importantly our conceptions of what

constitutes knowledge, research, and scholarship will also change and this will ultimately lead to changes in the definition of what is truth.

Multimedia has been described as "an intricate web of text, graphics, animation, sounds, and motion video" (Van Horn, 1991, p. 531). This technology, when coupled with other developments such as hypermedia, hypertext, the information highway and a 500 channel future, will revolutionize the way we learn, are entertained, and do business.

Currently multimedia applications are in use in a variety of settings. In education, multimedia is being merged with hypermedia and hypertext to create learning situations for students of all types: medical students learning anatomy, college freshmen in basic oral communication courses, high school students studying literature, and elementary school students learning math (Van Horn, 1991; Haavind, 1990; Beall & Siddens, 1994; Rogers, 1988).

In business, the use of multimedia in conjunction with other new media has ranged from the development of new management information systems and new training programs to the creation of new organizations that help companies make use of multimedia applications (Cordell, 1991; Van Horn, 1991; Haavind, 1990; Rogers, 1988).

The purpose of this paper is to explore the implications of a multimedia future for communication scholars. Specifically, the paper will (1) describe the major issues that emerge for

scholars in general as multimedia and other new technologies become easily accessible and (2) provide a discussion of issues we should be addressing as communication scholars, given projections about the future.

SCHOLARSHIP ISSUES IN THE MULTIMEDIA FUTURE

As the new multimedia, interactive technologies become more affordable and more accessible, communication scholars will face two interrelated sets of issues. The first set of issues relates to all types of researchers, not just communication scholars. These are general concerns about ownership, credibility, access, permanence, privacy, and community.

A second set of issues relates more specifically to the potential changes within the field of communication as a discipline. These issues relate to the integration of new practices into current theory and research and/or the development of new theory and research methods.

General Issues

As new information technologies become commonplace, scholars will begin to encounter new ways of conducting, evaluating, and accessing research. Several underlying aspects of the new technology account for the inevitable change in the act of scholarship.

First, as Cordell (1991) explains, the new media will be interactive: "information can be stored, manipulated, and processed, then delivered visually to the user upon demand" (p. 20). This ultimately means that "the user rather than the

publisher [will] select the style, organization, order, and content of the items" (Cordell, 1991, 21). The implications of interactivity mean that people may select and/or process information differently or draw different conclusions due to the way that they access the information. The intent of the author and the meanings associated with his/her "text" will ultimately be received differently in the future and this may force us to write and to read in new ways.

A second general area of concern relates to issues of ownership in this interactive environment. Because the new technologies permit the merging of various sources of information, traditional views and policy about copyright and liability will probably shift. Who will own the information? Who will be held accountable for the dissemination of libelous or inaccurate information on electronic networks?

Beyond the legalistic concerns, ownership also impacts on the general area of the credibility of information in a multimedia environment. Traditionally critical methods used in evaluating the quality of information have included examining the source or examining the methods used to gather the information. As data from a multitude of sources in a variety of media are merged, how will we decide issues related to the value or "truth" of messages?

For example, will issues of reliability and validity continue to be important? Will they be redefined as concepts? Will they remain important conceptually, but be determined

differently based upon new sets of collective beliefs and practices that emerge from use of the new technologies by consumers of the information?

Access to information in the multimedia environment of the future also poses some concerns for scholars. Obviously, the current debate about the potential to create new classes ("the information-rich" and the "information-poor") has implications for researchers at public and private universities: the ability to do research and have access to research may be significantly tied to the economics of the technologies of the future.

Cordell (1991) also links the issues of access and the credibility of information. As he explains, "[a] hallmark of an information economy is that information can have value, depending on who accesses it, when access takes place, and the form in which the information is accessed" (p. 23). He goes on to project the following possible scenario:

> "There could come a time when some information is so difficult to obtain on interactive systems that 'truth' will be defined as that which is easily available, since selections are costly and must be made quickly. We may tend to assume that information which is not easily available does not need to be known. Since sources other than those available through the new media may be too costly or difficult to access, we may witness a narrowing of our field of inquiry rather than the broadening promised by information technologies" (Cordell, 1991, 23).

Clearly, if this scenario becomes reality, scholarship would change dramatically in the future.

The permanence of information has always been a part of doing research. For centuries we have depended on written, permanent records and have given value to the written word. Clearly, the conception of a scholarly "text" will change in the future. The presence of multimedia and related technologies will redefine the traditional conception of research as something written down in a book or a journal: the forms will change as will the relative permanence of the "text."

In the future, journals and books may no longer exist -- publication will exist in cyberspace and public "hard" copies may not be accessible. Since it will be also possible to modify "documents" on the information highway, authors or audiences would be able to disseminate altered "texts." If this occurs, researchers could periodically update or edit findings and this lack of a permanent record of "original" research may change the way we do research and the way we define and build knowledge bases in the future.

Privacy is another concern related to the new information technology environment. Because our use of the information highway will make it possible to track our interests and usage patterns, it is possible that business, government, or others could discover information about us.

The implications of this are both positive and negative. It may be that the tracking would be done by others doing similar research -- this might facilitate collaboration. On the other hand, it might raise new issues of ownership related to the

research process rather than the research product. Other areas of concern relate to outside access to our research activities. The potential impact on academic freedom is something to speculate on in this area.

The final area of concern for scholarship in the new information age relates to the idea of community. Currently, research progresses as scholars come together at conferences such as SCA and present papers. Some of these are then modified and submitted for publication. The conference does more than serve as an outlet for research however. It is a place where individuals come together and interact. Both ideas and "culture" are created, modified, and/or reinforced.

If we are able to disseminate our ideas over the information highway, it well may be that conferences such as SCA will cease to exist and our connections with others will be done via computer networks. It is uncertain how this will affect our academic community.

It is possible that the technology will allow for more voices to be heard and for more interaction and collaboration to take place. Internet now allows for some of these activities. However, how will our sense of community differ? Will it be stronger or weaker? Will we connect more or less with others? A significant debate will continue to take place in this area.

Communication Research Issues

The presence of a future where businesses, scholars and the general public have easy access to interactive, multimedia

technologies presents communication scholars with a set of unique opportunities. This section of the paper attempts to highlight various issues about communication theory and research that scholars should begin to focus on.

Basic Communication Concepts and Theories

As the new information technologies become commonplace, communication scholars, in general, will need to examine their understanding of basic communication concepts. Specifically, classic concepts such as credibility, audience analysis, and effective organization of messages will need to be reexamined.

For example, as one currently prepares a paper or a presentation one does so with a specific audience in mind. In the future, as "texts" are merged with other data and sent over the information highway, unintended audiences may access them. What are the implications of this? Will the debate over communicator intent be reinvigorated in the field of communication? How will the impact of new technology add to our theory base in this area?

How will credibility be established in the multimedia world of the future? Communication scholars will need to address classic conceptions of credibility in combination with new modes of delivery in order to train students to effectively receive and use the new technology as senders. Overall, many of our traditional views on the process of preparing and delivering effective messages will need to be reexamined in light of the new technology.

Specific Contexts for Communication Research

Currently, the field of communication is subdivided into areas based upon contextual issues: interpersonal communication, organizational communication, and mass communication. While clearly, these subdivisions are interrelated, multimedia will force scholars to collaborate more across contexts. However, given the existing classification of research interests, a variety of new directions for scholarship seems to emerge.

Interpersonal Communication. Scholars in the field of interpersonal communication will find a variety of new areas that will demand investigation. The impact of multimedia technology on different types of relationships will need to be studied. Other areas for study will include the impact of the new technology on individual perceptions of community, interpersonal relationships that develop using the technology, and the use of the new technology to build relationships with others.

Organizational Communication. The use of multimedia technology by organizations will provide communication scholars in the organizational communication area with a wide variety of opportunities for research. Specific areas for investigation will include research which will examine the use of multimedia technology in relation to : (1)effective communication with various internal and external audiences; (2)various personnel practices such as recruitment, hiring, orientation and training; and (3) the practice of effective public relations over the internet. In addition, research which utilizes primary

organizational documents will be facilitated as companies create and distribute multimedia packages over the information highway and researchers access them.

Mass Communication. Researchers in the field of mass communication will also have a number of opportunities open to them as new technologies become commonplace. Both policy research and other research which involves the analysis of organizational documents will be facilitated as these become available over the information highway. Questions about process and effects, the difference in the content of multimedia packages, and the development of the industry itself will all arise as the new technology becomes widespread.

In summary, the implications of multimedia technology are numerous for scholars in the field of communication. Our greatest challenge is perhaps best summarized by Cordell (1991):

> "The creation of a growing body of facts without context may be one of the less-attractive aspects of high-tech society. If data or facts without context are taken to be either information or knowledge, then we can take this as a symptom that we have failed to create adequate safeguards to protect the integrity of information" (p. 22).

As communication scholars we have an obligation to help create those safeguards both in relation to society and to the discipline itself.

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