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MULTIMEDIA IN COMMUNICATION EDUCATION:

A SURVEY OF COMMUNICATION EDUCATORS

by

Michelle Hales

A project report submitted in partial fulfillment
of the requirements for the degree

of

MASTERS OF SCIENCE

in

Communication

Approved:

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UTAH STATE UNIVERSITY
Logan, Utah

1996

ABSTRACT

Multimedia in Communication Education:

A Survey of Communication Educators

by

Michelle Hales, Master of Science

Utah State University, 1996

Major Professor: Dr. Steven D. Anderson
Department: Communication

This project was an attempt to determine if and how educators are adapting their

curriculum to reflect changes in technology. The survey revealed that the respondents,

for the most part, are incorporating multimedia technologies into their curriculum.

Results also showed an interesting pattern to that integration. This pattern involved two

concepts of multimedia: 1) multimedia as a new form of communication (HTML, CD-

ROMs, etc.), and 2) multimedia as a tool to enhance traditional forms of communication

(broadcast news, print journalism, etc.). It was found that educators considered

multimedia applications to enhance traditional forms of communication (i.e. image

creation software, desktop/non-linear editing applications) as most important.

(106 pages)

ACKNOWLEDGMENTS

LIST OF TABLES

CONTENTS

CHAPTER 1

LITERATURE REVIEW

Technological advances continue to change the face of communication. With the advent of the CD-ROM, the Internet and other forms of multimedia communication, the communication field is once again being re-evaluated. Until recently the only way to get news, especially international and national news, was through newspapers, magazines, television or radio. Now we have the Internet. Not only does the Internet have the capacity to supply a seemingly unlimited amount of information, it can also be updated frequently and distributed immediately. Delivering the news is not the only use of the Internet, but according to surveys by the Kelsey Group, 3,200 American newspapers now [1995] offer interactive services, up from 2,700 in 1994; 2,000 in 1993; and 42 in 1989, the first year Kelsey conducted its survey (Goldsborough, 1995). There is even a service that lets consumers create their own newspapers. CRAYON is an acronym for CReAte Your Own Newspaper (http://www.eg.bucknell.edu/boulter/crayon). Unlike a conventional newspaper that gives the reader the news, CRAYON lets readers *take* the news. Using CRAYON, readers can select the links they want to browse each day, basically creating their own newspaper (Goldsborough, 1995).

By 1998, it is projected that 100 million people will be using the Internet (Lock, 1995). In an article for Feedback, Lock (1995) notes that, "It is through the media's promotion of the Internet as a valuable resource that, in time, the Internet will become the next mass medium" (p. 9). The media have done much to promote the Internet. One reason for this is the many advantages to publishing on the Internet, including quick and inexpensive

news delivery. For as little as $5,000 down and $600 per month, a publication can set up shop on the WWW [World Wide Web]. This doesn't even begin to compare with the cost of running a printing plant, or even producing and mailing one issue of a newspaper or magazine (Lock, 1995). NBC's first WWW site debuted February 1995. Time magazine jumped on board in March of 1993, placing a copy of its magazine on the Internet with America Online (AOL). Universities are also going online. In 1996, Brigham Young University created the nation's first student-run multimedia Internet news service utilizing both print and broadcast journalism programs (Snow, 1996). Gilder (1995) writes, "Within a span of about seven years, any computer function will drop to roughly one-hundredth the current cost or grow 100 times in power," thus making electronic information dissemination that much more possible and profitable (p. 45). In fact between 1989 and 1993 the portion of computers connected to networks rose from under 10% to over 60% (Gilder, 1995).

Roger Fidler, former director of Knight Ridder's now-defunct Information Design Laboratory (IDL), looks to the future and envisions a battery-powered, 2-pound, flat-panel "personal information appliance." The panel would have a high resolution equal to reading ink on paper. It would also have a battery life of several days, simple on-off operation, and ample storage capacity to load large amounts of data. The idea behind the panel is that the information would be downloaded from public kiosks or sent over the phone lines. The design of the information presentation would look similar to a regular newspaper except that the reader could skip from section to section with the touch of a button or click of the mouse. Photographs could become animated movies with a simple click (Aumente, 1994).

According to Fidler:

> You are not going to get people to cross this chasm from ink on paper into this new world of interactive multimedia without some kind of bridge. So our philosophy is to build a bridge that people already know how to use and are familiar with. Of course a newspaper is something people already know how to use. ... Our objective is to make this so simple that anyone can pick this up and regardless of their age, know immediately what to do (Fidler as quoted in Aumente, 1994, p. 37).

Jerome Rubin, chairman of the News in the Future Consortium at the Massachusetts Institute of Technology Media Laboratory, makes a living describing the future of the media. He visualizes an electronic newspaper similar to Fidler's information appliance, but made of a "flexible [on-line computer display] that approaches paper -- or may even be some form of paper" (Rubin as quoted in Fitzgerald, 1994, p. 20)

How is all of this affecting the communication industry? It has been noted that the requirements for an entry-level journalism position are multiplying (Lee & Flemming, 1995). Today's communicators not only need to know how to gather the news and tell the story, but they also need to know how to navigate in the world of online information and how to present their messages in various media.

The project presented in this report is an attempt to assess the state of communication education today in light of recent developments in communication technology. A review of the literature reveals that communication educators understand the importance of becoming multimedia literate; the debate is over how students should acquire such literacy. Should students simply be trained for industry-specific tasks or should they be taught basic theoretical concepts that can be used with any mode of communication? Or should a

communication student's education be a combination of both approaches? As computers and other electronic information sources become more prevalent, multimedia/visual literacy becomes an even more significant factor in communicating effectively. Ferraro (1993) writes:

> As the multimedia approach to communicating information becomes commonplace, understanding the factors of computer-based image and sound construction and manipulation will become increasingly important in both business and academe as computers march toward virtual indispensability within the context of the information age (p. 24).

Perrigo (1994) agrees. In a paper presented at the Annual Meeting of the Speech Communication Association, she listed the top five characteristics academics and recruiters find "necessary" for new hires to obtain and keep professional jobs. Of these, the top skill employers look for today is the ability to communicate. Perrigo believes that learning communication technology is an important part of learning how to communicate effectively. She suggests that educators teach students effective communication by: 1) using communication technology in the classroom, 2) using multimedia presentations in the classroom, 3) bringing the real business world into the classroom, 4) doing exercises using a hypothetical situation and 5) performing realistic role-play simulations.

Multimedia literacy is becoming an essential skill in the electronic age. As the tools change, it becomes increasingly important to become at least familiar with new media and their many uses. The question is, "How do we teach this literacy in such a way that verbal literacy and basic concepts of communication are not neglected?"

Communication Education

According to Brent Baker (1995), dean of the college of communication at Boston University, a journalist's education should consist of 1) a liberal education, 2) the constants of good writing, critical thinking and research, and 3) new technologies -- in that order. In an article published on the Internet, Baker quoted a TV news director as saying:

> Too many of these (new) journalists can't write well. They think that writing isn't important, but it's critical. But, that's not the main problem. Those who can write well really don't have anything important or interesting to say. They approach a story in a personal "what's new" way, rather than an objective way. They have no grasp of history. In short, they don't have the right stuff (p. 2).

Communicators must be able to tell stories and know how to convey a message -- to make sense of what everyone sees. Goldsborough (1995) quotes media scholar Leo Bogart as saying:

> People want information professionally picked, processed, and interpreted. They want this done with an understanding of the human dramas that mere facts disguise and distort. They want it done with literary style, through the use of language that evokes imagery and emotions. That is the job of journalism (p. 40).

Baker sees journalists as content providers in a field where he believes content is still king. "I don't care whether you are a network provider, or a computer hardware or software provider, you still need quality content," Baker writes, "and that's still where the journalist, radio, television, film, advertising, or public relations person comes in. They are the content providers" (p. 2). Similarly, Fidler writes, "I don't think [newspaper and magazine] publishers are going to die on the information highway. We may be the prime beneficiaries,

because content is what is going to drive it" (Fidler as quoted in Aumente, 1994, p. 39).

Broadcast journalist Allison Davis, former news producer for the NBC "Today" show and

now executive producer for NBC Interactive News, placed importance on content when she

said that she only hires seasoned journalists. "We could always teach a journalist HTML

(hypertext markup language)," she said, "but we couldn't teach technical people how to tell

a story" (Baker, 1995, p. 1).

Horton (1993) reminds us that since the days when cave dwellers sat around a camp

fire telling stories, humans have used stories to communicate. Even in a world that is

becoming increasingly multimedia- (interactive) and visually-oriented, professionals and

educators seem to agree that communicators need to have a basic foundation in

communication constants -- they must be verbally literate.

Multimedia Literacy

The constants of communication will always be an important part of communication

education. People have always told stories, but the way in which we tell the story has

changed (Horton, 1993). New technology, when used correctly, can be a powerful

storytelling tool. That is why multimedia literacy is becoming increasingly important.

According to Horton (1993):

> [N]ew media just allow true communicators to communicate better. They
> give us more power to tell our stories. They let us tell our tales to those in
> distant locales, to those of different tongues, and to those deficient in
> imagination (p. 794).

People retain about 20% of what they hear, 40% of what they see and hear, and 75% of what they see, hear and do (Oz & White, 1993). Through multimedia, people become involved in the communication process, and this involvement enhances their ability to retain information. It is because of this that multimedia literacy is rapidly becoming an essential part of both communication and education. While these new technologies can certainly be used to help us communicate better they can also be utilized to educate communicators and others better. In an article written for Feedback, Zeigler and Costello (1992) cite Miller's "10 good reasons" for adopting interactive multimedia learning systems. Besides being able to point out "examples (good and bad) of IMM products, design, strategies, etc.," advantages to teaching with multimedia include:

1. Reduced learning time -- Technologies reduce learning time by an average of 50 percent. Students can pace instruction, which accommodates different learning styles, and receive immediate feedback and reinforcement.

2. Reduced cost -- The primary costs of interactive instruction lie in design and production --- not in replication, distribution, and delivery.

3. Instructional consistency -- Instruction does not vary in quality from class to class.

4. Privacy -- Students can safely ask potentially embarrassing questions.

5. Mastery of learning -- Students do not move on to new material until current material is mastered.

6. Increased retention -- Interactive programs provide a strong learning reinforcement.

7. <u>Increased safety</u> -- Students can explore potentially dangerous subjects without taking risks.

8. <u>Increased motivation</u> -- Responsive feedback and individual involvement has proven to be highly motivating both in both individual and classroom learning environments.

9. <u>Increased access</u> -- Interactive systems can provide greater and more equal access to quality education.

10. <u>Learners enjoy interactive learning</u> -- Interactive systems allow learners to take greater control and responsibility for their learning (Ziegler & Costello, 1992, p.10).

If today's communication technology were compared with that of a couple of decades ago, it would be like comparing driving a car to driving a horse and buggy. Although driving, either cars or buggies, each has basic concepts -- staying on the road, not hitting pedestrians, trees etc. -- we don't teach our children how to drive with horses and buggies anymore. Basic theoretical concepts of communication will remain, but the tools with which we use these concepts are changing. Thistle wrote, "While there are the basics that will never change: the ability to write, the ability to think, the ability to conceptualize a visual package; the tools are changing so dramatically. It's a whole new ball game" (Thistle as quoted in Baker, 1995, p. 2).

Technology is making it increasingly easy to create multimedia communication messages. Home systems are now available with capabilities which are very close to those of systems produced 10 years ago and sold at prices of over $100,000 (Rarey, 1990). Since

prices have made it increasingly easy for anyone to create some kind of multimedia, communication education should include training in how to create effective presentations not only simply and efficiently, but also "professionally" (Ferraro, 1993; Kerr, 1986; Martin, 1995).

How is multimedia literacy being taught in communication/media programs today? Griffin (1991) writes:

> For the most part, journalism programs continue to go about the business of teaching mass communication as if the explosion of mass media imagery that has dominated both the print and electronic media in the last two decades had never occurred (p. 9).

He believes that the "skills teaching" v. "enrichment courses" approach to education is obstructing "attempts to provide a broad, interdisciplinary educational preparation for working journalists" (Griffin, 1991, p. 11). Indeed educating students so that upon graduation they are not armed with simply enough technological skill to "flag down an entry-level job" (Griffin, 1991, p. 12) or sent away without the technological skills necessary to apply theories learned in class, requires a delicate balancing act.

Some argue that using computers in the classroom is not only unnecessary, but undesirable. Newspaper designer Mario Garcia, faculty associate at the Poynter Institute for Media Studies, said, "The subject of newspaper design can be taught under a palm tree" (Garcia as quoted in O'Donnell, 1995, p. 47). He added that good design is taught through concepts and theories rather than computer skills. Garcia's experience with computers in the classroom is that when he uses computers he spends more time fixing technical problems and less time teaching design.

Smith (1994) agrees. He did research on computer-mediated communication systems for supplementing traditional course instruction. While not entirely pessimistic about the idea of using computers in the classroom, Smith cautioned instructors to "carefully assess whether the benefits of computer-mediated communication systems are great enough for their class..." (p. 33). Similar to Garcia, one of Smith's complaints was that instructors are usually not in a position to "remedy limitations in the software itself" (p. 32).

Lee and Flemming (1995) acknowledge the pros and cons of using technology in the classroom. Whether using technology to teach communication or teaching communication technology, there are benefits as well as limitations. Lee, et. al wrote specifically about the problems (and solutions to problems) of computer-assisted reporting (CAR), but these points can be applied to teaching other forms of communication technology. The first problem he cited was that of funding. The cost of equipment -- computer software as well as hardware -- can sometimes be overwhelming. The solution suggested for this problem is soliciting donations from corporations or foundations. Purchasing used or inexpensive equipment was also suggested. Another problem was the "lack of qualified faculty to teach" (Lee & Flemming, 1995, p. 30). Some of the solutions to that problem were to hire experienced journalists as adjuncts or to "borrow" instructors from other university departments. The third problem cited was accommodating demand for these classes. Solutions included creating local area networks (LANs) to increase class size, using other departments' computer labs and getting several teaching assistants to help, as well as designing short courses in order to teach several students over the same period of time in smaller classes. The last two

problems cited were "resistance of faculty" and "resistance of university administrators" (Lee & Flemming, 1995, p. 31). One suggestion was simply to replace resistant faculty. Other suggestions were to educate faculty and to devise a reward system for their training. Demonstrating usefulness of the curriculum was cited as a way to increase support from resistant administrators.

Williams (1992) acknowledges the importance of teaching technology in spite of barriers. She argues that content must be presented in some sort of fashion and indicated that if communicators don't know about the tools of presentation the content gets lost. Learning communication theory is very important to content presentation, but if students don't have a basic knowledge of the equipment they will use to present the message and its operation, they will be unable to create even the most rudimentary mass media messages.

"By adapting to emerging professional ... cultures ..." Thompson (1995) maintains, "journalism and mass communication programs and their graduates will thrive" (p. 40). Thompson attributes this to the fact that digital communications or multimedia communications encourages and requires students to "think in multiple dimensions" (p.39) -- aural, visual and tactile. Thompson not only sees the power of digital communication -- CD-ROM authoring, Internet publishing, etc. -- he also sees "digital communications" as an extension of the "methods and skills presented in traditional curriculum" (p.38). According to Thompson, "... basic skills and concepts remain the same. Proper selection of material, style, copy editing, video editing, and audio editing are still taught" (p. 39). The difference is the tools used to create the message.

O'Donnell (1995) gives these reasons for teaching and using technology in the classroom. He argues that 1) technology "cuts down on the variables students must juggle and makes them concentrate on solving visual problems" (O'Donnell, 1995, p. 50); 2) students demand it, recognizing that technical skills make them attractive to employers; 3) it is more feasible sometimes to have one class combining technical education and conceptual education than to have two separate classes; and 4) information is "sterile" unless the student is actively participating.

Scott (1995) reported the findings of a survey of 250 journalism and mass communication educators from the United States, Canada and Puerto Rico. In the survey, educators were asked what they thought schools of journalism and mass communication were doing well and what they were doing poorly. The results showed a general satisfaction with education in the areas of "freedom of expression" and "freedom of information," but a lack of satisfaction with technological training and education. Scott went on to point out that "real-world training in many aspects is technology" (p. 37). He also pointed out that journalists who know technology will be in greatest demand. However, he did acknowledge that teaching technology is challenging both mentally and financially because technology changes so rapidly, and money to support training and education in technology is inadequate.

On the other hand, Gullifor (1991) believes that it isn't necessary to have expensive equipment to teach journalism. Hudson (1991) agrees and says that schools don't need state-of-the-art equipment as much as they need "state-of-the-art capabilities" (p. 20). Hudson goes on to say that students and educators don't need the most expensive equipment, but our

equipment should have the "capability to mimic" the latest equipment (p. 20). The idea is that because of the increasingly user-friendly nature of new technologies, students can easily adapt to different applications. The critical issue is knowing what capabilities one has to deliver the message with and how to use those capabilities in the most effective manner. Martin (1995) adds that the trick is for students to learn "which media are appropriate for which message, and which ones are not" (p. 97). He writes:

> Just as we had to learn not to use all available fonts on one printed page, we now need to learn which media are appropriate for which message, and which ones are not. The primary job of communicators has always been to arrange and present ideas so that they can be understood. Words have merely been the main medium for presenting such ideas in the past. The presence of new media does not change the basic structure of good communication, and it does not change the importance of the communicator's role. The message will always be the most important part of communication. The medium will always be secondary (p. 97).

Gullifor (1991) said, "The cheated student is the one who is given equipment specific training at the expense of conceptual understanding" (p. 17). He noted that learning on the best equipment may even spoil students because sometimes school equipment is better than what they have to work with in the real world. That is one reason that video "toasters" are so popular. Toasters can create special video and graphics effects, perform character generator operations and 3-D rendering. Basically, toasters mimic operations and functions of the more expensive equipment (Ferraro & Olson, 1993).

Eilers (1989), in an article for Journalism Educator, discussed other tools a journalist should know. He wrote that one of the jobs of a journalism school is to educate students about the tools of the profession. In the past these tools (AP style manual, the dictionary, the

thesaurus etc.) were available only in book form. Now electronic versions of the dictionary, thesaurus and AP style manual are replacing their hard copy versions. Eilers stressed that educators need to familiarize students with these new electronic tools.

It is challenging to learn the tools of the profession, yet it is precisely this knowledge though that allows a communicator to communicate more effectively. Kerr wrote this about the electronic information age:

> The challenge is not simply to recreate in electronic text what has been done in print, but to capitalize on what electronic text can do best -- provide rapid access to lots of information, and help to organize and structure the way in which the user interacts with the text. Doing this will require us not only [to] reconceptualize how the text itself is structured, but also to think more deeply about how it is to be understood by the reader. (Kerr as cited in Thompson, 1994, p. 4)

Visual Literacy

Visual literacy is another important factor in effective communication. Becoming visually literate is similar to becoming verbally literate. There are certain basic components (letters, words, spelling, grammar, syntax, etc.) a student needs to know in order to be considered verbally literate. Students learn these basic components in order to read, write and evaluate spoken or written language. Likewise there are certain basic components students need to learn to read, write and evaluate visual communication or, in other words, to become visually literate. "In both cases, beginners combine elements in awkward ways until they learn the accepted patterns" (Schamber, 1991, p. 19). Creating a photo page is a lot like outlining a story. However, Schamber (1991) is quick to point out, computer literacy

is not the goal. She stresses that students and instructors need to resist the temptation to become overly concerned with tools and forget about the need to develop "cognitive abilities" (Schamber, 1991, p. 19).

Over the years many tools have made writing easier (the pen, typewriters, word processors, etc.). These tools have made it easier to write and produce multiple copies of our writing. Nevertheless, the basic components of writing remain fairly constant. Similarly, visual communication has also been facilitated by technology, but the basic components of good visual communication remain constant. Students who learn these basic components can transfer their knowledge and visual skills to new technologies and different media (Schamber, 1991).

Kerns and Johnson (1994) acknowledge the need for an awareness of visual literacy and how to use it effectively. They talk about student presentations and explain that:

> [A] good presentation is more than just the sum of the raw materials, it is the knowledge of why it is a good presentation, what made it so and how to go about doing it. ... [W]hen students reach this point, they have learned the importance of visual literacy... (pp. 9, 10).

Theory

The theory behind communication is also an essential part of a professional communicator's education. Paivio contributed to communication theory with the Dual Coding Hypothesis. The Dual Coding Hypothesis states that the left and right hemispheres of the brain operate together to process visual and verbal stimuli. This is important because communicators need to understand how people receive information in order to prepare it.

Simpson (1994) offers several suggestions as to how humans, as communicators, can better utilize the Dual Coding Hypothesis to communicate. First, combine verbal and visual stimuli to make the message more memorable. This suggestion is consistent with Oz, et. al (1993) who pointed out that people retain about 20% of what they hear, 40% of what they see and hear, and 75% of what they see, hear and do. Using both verbal and visual stimuli, a person's ability to retain information is enhanced.

Next, Simpson advocates the use stereotypes -- both verbal and visual modalities -- to convey a great deal of information in a short time. Stereotypes are universal and easily and quickly understood. Yet it is precisely because of this that stereotypes are often looked at in a negative light. Simpson suggests that this is because of the potential to misrepresent information. While the potential is there, he also points out that a communication professional has an ethical responsibility to avoid miscommunication.

Simpson also suggests using verbal stimuli in conjunction with the visual whenever possible. Connect the imagens and the logogens so that together they reinforce each other. Simpson gives an example of a picture of a hamburger next to some coins. By itself it may have several different meanings, but combined with text that says something about saving money by buying this hamburger, it conveys a particular meaning. In this way the text and the visual fortify each other.

Finally use visual stimuli (imagens) to convey a striking image that can be remembered readily. As with stereotypes, many imagens we remember are simple. Simpson recognizes that we live in a visually oriented society. We would rather see an image than

have it described. Imagens can be very powerful. They can be used to convey information quickly, but verbal stimuli are still important because it is verbally that we convey understanding, in-depth meaning and information. Along those lines, imagens are more easily misunderstood or misinterpreted. Imagens are better used to convey abstract thoughts and concepts rather than concrete information. Also, imagens are best used when describing discrepancies. Simpson believes that people of all ages prefer *seeing* differences as opposed to reading descriptions of them.

Another theory that affects communication is the theory of the primacy of print. According to Heba (1994), the idea that print is more believable than other media is one of the major obstacles in developing multimedia. People tend to believe written or printed text more than electronic text. This can certainly be seen with multi-media forums such as the World Wide Web. Lack of security on the WWW creates doubts as to authenticity. Also, the ease and simplicity of publishing on the Internet tend to diminish its credibility. Heba writes that education in multimedia literacy will help extinguish society's notion that print is the only legitimate/trustworthy form of communication. While people may think of literacy in the verbal/textual sense, Heba argues that communication is an intricate combination of codes and conventions. These conventions and codes are part of a special kind of literacy that aids communication. Multimedia communication takes advantage of both types of literacy.

Gardiner (1994) theorizes that the computer is like the human brain: Just as the corpus collosum connects the left and right hemispheres of the brain and enables interaction

between thought and action, the computer integrates print and video and allows interaction between the two. "At last we have a medium which simulates the whole nervous system. A three-dimensional medium which promises to enable us to wrap our three-dimensional minds around our three-dimensional world" (Gardiner, 1994, p. 17). Gardiner refers to multimedia as the fourth generation of communication and reflects on the shift from teacher-centered education to student-centered education. Multimedia downplays the authority of the author by allowing the reader to participate and inviting her to be a co-author, thus returning education to its rightful owner -- the student. As multimedia communication becomes more prevalent, theories like these, as well as others, will most likely become an important part of communication education.

Innovation in the Classroom

Davenport and DeFleur (1993) argue that academia should also be concerned with innovation. They point out that:

> Most disciplines on campus, such as in the sciences and humanities, emphasize the "cutting edge" that has a strong influence on what is taught. Furthermore, a lead mentality is a major focus in other areas of professional education, such as architecture and medicine (p. 34).

They cite an example of how a Harvard Medical School student working on both his M.D. and Ph.D. degrees discovered a novel drug strategy that eliminates the H.I.V. virus from human cells grown in test tubes. Apparently this drug strategy "challenged accepted medical practice" (Davenport & DeFleur, 1993, p. 34). It was cutting edge. The authors suggest that communication education is lagging behind industry when it comes to

innovation in communication. They go on to suggest that communication educators can take the lead and become innovative leaders in communication by doing the following things: 1) teach new technology that has not yet diffused through the industry; 2) perform at a level higher than current industry practice ; and, 3) put less emphasis on the craft as it is now practiced and more emphasis on those theories that examine how information is communicated through intermediary devices.

Becoming an innovative leader also takes vision. Visionaries such as Vannebar Bush and Ted Nelson foresaw this computerized future. Bush discussed electronic information storage in an article he published in the July 1945 issue of The Atlantic Monthly. In this article Bush predicted the invention of a machine he called the Memex or Memory Extender. It was to be a storage device "in which an individual stores all his books, records, and communications, and which is mechanized so that it may be consulted with exceeding speed and flexibility" (Carvin, 1995, p. 1). Nelson coined the term hypertext in the early 1960's. Carvin wrote this of Nelson:

> When Nelson first began to toss around his ideas 30 years ago, his prognostication of an entirely networked culture seemed far flung at best -- computers were expensive and cumbersome while data capacity and bandwidth had yet to advance even to their Bronze Age (p. 2).

Williams (1992) wrote, "There are a variety of innovative ways to go beyond equipment instruction ... if the assignments are planned to allow the instructor to focus upon theoretical and conceptual goals" (p. 27). Following are examples of academic professionals taking the lead in incorporating innovative new technologies in their curriculum.

McCall (1993) talks about using workshops and laboratories to enhance communication education. He defines a media workshop as "a place where students can serve on-campus apprenticeships with a more traditional media organization" (McCall, 1993, p. 5). These workshops would be part of the capstone courses of a student's education. They would combine what a student has learned throughout his/her college education.

A media laboratory, on the other hand, is described as a more "futuristic" environment. Laboratories should encourage students to "try new forms of media expression without the constraints of traditional industry practices and standards" (McCall, 1993, p. 5). Schools that do not have the funding for both a workshop and a laboratory could develop a combined workshop/laboratory.

Gross (1993) writes about "media institutes," something similar to the media workshop/laboratory. These institutes would be in partnership with corporations, government agencies and non-profit organizations. Gross believes that broadcasting, as we know it, is disappearing. He believes non-media institutes will become the future "hot beds" of information. Gross writes, "[A]s technologies converge, communication professionals will move among different fields..." (p. 11). Gross believes that it is precisely this fact that will require educators to think about restructuring their curriculum. He also points out that, "[t]he new breed of communicators must be multifaceted professionals, and their education must reflect the diversity of required knowledge and skills" (Gross, 1993, p. 12).

In an article for Journalism Educator, Smith (1990) reports on a test of the satisfaction of students using a combined reporting simulation and writing analysis program.

While this deals with technology used to teach communication and not necessarily technology used to communicate, what was found most interesting was a point made in the final paragraph of the report. Smith quoted a student as commenting that the program was interesting because "it disguises itself as a game" (p. 44). The author went on to point out that, in effect, journalism is a game. Smith wrote:

> Anyone who has worked as a reporter knows that journalism itself is often very much like a game -- with the reporter probing for information from sources who may be uncooperative or deceptive -- and then trying to fit the pieces of the puzzle together into a compelling story (p. 44).

Like journalism, multimedia communication can also be fun and interesting, and the ways in which we train future communicators will probably reflect that.

Another example of innovation is a course called *Studio 2 with EASE*. This course was designed to create an interactive program that would teach basic video production skills. Miller (1992) outlines the project in an article for <u>Feedback</u> magazine. The first semester was spent designing the interactive program. Once the design was finalized and the hardware purchased, the production phase began. A class of seventeen students was instructed, organized and sent out to begin production in three areas -- graphics, computer programming, and video. Each group had a manager who was responsible to keep the group on track with the project goals, and each student was given a grade contract with specific job responsibilities. The project required video of a studio crew at work. Students in the advanced production class were auditioned and selected as part of that crew. The graphics were created mainly in MacroMind Director and Swivel 3-D. Computer programmers were also commissioned to work on flowcharts and strategies for task division. The project was

considered a success because it taught the students how to interact as a team. Also they were able to apply the knowledge they had acquired thus far in their education while at the same time learning new technologies and how to use those technologies to create multimedia.

Anderson (1993) writes of another team-oriented class. In an article for Feedback, Anderson describes an electronic news gathering class he taught. The class was set up to be similar to a newsroom, with a news director, executive producer, etc., except that time was also taken to critique the students' work. In this way students not only gained "real world" experience, but they were also able to make it more of a learning experience. Anderson notes that the very nature of the class was an applied activity. It is that aspect of the course that he argues makes theory more meaningful because it is placed in an "experiential context." The class "allows students to practice what they have learned ... in an atmosphere of reflection and constructive criticism" (Anderson, 1993, p. 26). This reduces the chances of graduating what Anderson refers to as "qualified theoretical problem solvers with no place to go" (p. 26).

Another set of courses was described in an issue of Feedback. Three courses were developed to meet the needs of a "real-world" client. Students in each of the courses worked as part of a team to accomplish their objectives. This project taught students 1) the nature of interactive media, 2) the value of an interdisciplinary team approach to production and 3) the demands of working for a real-world client (Vogel, Shulman & Jenisch, 1990).

Learning to work as a team is an important element of multimedia education. For instance, Snyder (1996) insists that designing a web site requires at least four team members.

First an architect and designer, a team leader, is needed. This person has the "grand vision for the site." Next a programming member is needed. This person knows the technical ins and outs of HTML or whatever programming interface is used at the site. A graphic designer is needed for the visuals. And finally a content provider is needed. Each member of the team is essential to creating a multimedia communication. It is be beneficial to not only train communicators in each of these areas but also as team players.

Teamwork is also important as media becomes more and more visually oriented and the barriers between the areas of communication disappear. Barnhurst (1991) tells us that technology has often dominated the content of visual communication courses. Likewise technology has also dominated and defined visual aspects of all areas of journalism (print, advertising, and TV). Barnhurst believes that this was done to give meaning and sense to visual communicators and their crafts. He added though that this has also served to divide the individual areas of journalism/communication. However, now that media is becoming more and more visually oriented, technology is breaking down barriers and media creation is becoming more of a team sport.

The ability to communicate effectively is a prized resource. Today, communicating effectively encompasses not only verbal literacy, but also the ability to present one's message on the various media available (multimedia literacy). As communication changes in response to technological advances, communication education will inevitably respond and the debate over the nature of this response will also likely continue.

CHAPTER 2

METHODOLOGY

This project was developed in an attempt to assess the state of communication/media education today in light of recent developments in communication technology. How are educators training their students? Is coursework mainly skills oriented or theoretically oriented or is it a combination of both approaches? Also, what applications are being taught? Which forms of multimedia (if any) did educators feel were important? In order to make this assessment, a survey was developed and sent out to institutional members of the Broadcast Education Association. Also, copies of syllabi for classes teaching or using multimedia were solicited and, finally, respondents were asked to elaborate on how their departments planned to integrate multimedia (if they planned to integrate multimedia) or provide any other information they felt might be helpful.

The Survey

The survey was developed in the Fall of 1995. It contained 25 questions divided into three sections. The survey population consisted of BEA institutional members. BEA membership is divided into four categories: 1) Institutional membership, 2) Individual membership, 3) Associate membership, and 4) Corporate membership. Institutional members include "colleges and universities that have courses dealing with electronic media" (Anderson, 1995, p. 1).

The first week in January 1996, 250 surveys were sent out. A cover letter (see Appendix A) was used to explain the purpose of the survey. Institutional members were

reminded of the creation of a multimedia task force at the BEA Spring 1995 convention. They were also told that this survey was part of the task force's plan to study multimedia education and they were informed that the results of this survey would be presented at the BEA Spring 1996 convention.

Section one of the survey was a simple three-question section. This section was used to find out the title and department of the person filling out the survey and also to filter out those institutional members who did not incorporate multimedia into their curriculum. If the institution did not incorporate multimedia into their curriculum, the member was asked to go directly to section three of the survey. Section two dealt strictly with multimedia in *current* curricula. This section was designed to be answered only by those respondents that indicated that they were *currently* incorporating multimedia in their curricula. Section three, like section one, was intended to be filled out by all who received the survey. It dealt with future plans for using/teaching multimedia in the curricula.

The Broadcast Education Association

This project was conducted on behalf of the Broadcast Education Association. BEA is a professional association for professors, industry professionals and graduate students who are interested in electronic media and multimedia teaching and research. At BEA's Spring 1995 conference a multimedia task force was created to look into the use of multimedia in BEA member institutions. The survey discussed in this report is one part of the task force's multifaceted plan to accomplish its assignment.

The main objectives of the task force were as follows: First and foremost the members wanted to "address common questions and concerns of broadcasting and electronic media educators regarding multimedia" (Broadcast Education Association, 1996, p.1). Second, they wanted to develop interactive multimedia resources for BEA member educators. Their final desire was to develop recommendations for the BEA Board of Directors regarding BEA's future role in multimedia education.

In order to achieve these goals, a pilot study was conducted on the Internet in the Fall of 1995. Also, scholarly journals and trade publications were researched and industry and educational experts were consulted. Finally, a survey (the one reported here) was constructed and sent to each of the BEA member institutions. The task force reported their findings at the BEA Spring 1996 convention (BEA, 1996).

<u>Hudson's pilot study (See Appendix D)</u>

In order to get a better understanding of the issues at hand, Tim Hudson, chairman of BEA's multimedia task force, developed a simple pilot study and conducted it via e-mail. This study was consulted in preparation for building the survey. In 1995 Hudson sent his e-mail survey to the other members of the BEA task force. In it he asked questions like, "What do we mean by 'multimedia'?" "Which areas are appropriate for the broadcast or media curriculum?" "What should the courses include?" "Should curricula include hands-on multimedia instruction in required or elective courses? How many? Which more traditional courses might they complement or even supplant?"

Responses were anonymous and varied. In response to the question, "What do we mean by 'multimedia'?," one person responded that multimedia is not a new thing. "Interactive multimedia is not new and is more the same than it is different," the respondent wrote. He/she went on to explain that if there is anything new, anything "different," then it lies more with the user than the technology. "The differences are more conceptual than they are skills based," the respondent continued. "The differences should be seen as threads running through the whole rather than a new medium requiring many new courses and substantial retraining." Another respondent suggested forming panels to get to the heart of what "we mean by 'multimedia'."

When asked which areas of multimedia were most appropriate for broadcast or media curriculum, one respondent stated, "I believe we've always been 'multimedia." The respondent continued by saying, "[e]ven these other categories represent what broadcasting is hoping to become." Another respondent claimed digital media production to be the future. "Graduates of our programs must have digital media production experience to be competitive in today's job market, and will soon be unemployable without it," he/she wrote.

What should the courses include? One respondent advocated using technology to teach technology. For example, using CD-ROM or similar technologies to teach "by pointing out examples (good and bad) of IMM [interactive multimedia] products, design strategies etc."

Several respondents to Hudson's survey replied when asked about hands-on instruction. One person wrote, "In my opinion, experience is the only certified teacher."

However he/she was also quick to point out that conceptualization, design, and strategy ideas or theories are also important. Another person predicted that it won't be very long before "digital production and multimedia production/distribution will replace traditional production and distribution." With that simple introduction to the issues, survey construction began.

Definition and categories

Since multimedia is such an ambiguous term, a definition was included in the survey. Multimedia was defined as a computer-aided combination of text, graphics, sounds, and still or motion pictures to convey training or information. Besides simply defining multimedia, it was also categorized. Hudson, along with the first question of his e-mail survey, included five categories of multimedia:

- presentation multimedia design

- interactive multimedia design

- packaged multimedia design and distribution

- distributed and/or networked multimedia

- digital/desktop audio and video production and postproduction

These same five categories were used for this survey. Presentation multimedia was defined as "computer-based multimedia material for linear presentation -- non-interactive." Packaged multimedia was considered interactive CD-ROM or CD-I. Networked multimedia encompassed such things as the World Wide Web or "truly interactive cable/TV services."

Interactive multimedia, including kiosk multimedia, was defined as "interactive programs housed in desktop systems, or self-contained units such as those found in malls, offices, travel agencies, student unions, etc." Finally, desktop video/audio (non-linear editing) was interpreted as "the use of computers for video/audio production -- editing of digital audio and video." After establishing a common definition and basic categories, survey questions were developed.

Questions (See Appendix A)

Section One

Questions in section one included: What is your title? What is your department name? And finally, does your department incorporate the teaching of multimedia creation in the curriculum (either in departmental classes or classes from another department)?

The objectives of section one were threefold. Question one was designed to find out who was filling out the survey. What was their position/title? The main objective was to find out the position/title of the people in the departments who were most likely to fill out a multimedia survey. The survey was sent to the person in the department that was registered as the BEA institutional member and therefore most of the surveys were sent to department heads. There were instructions, however, for the recipients to give the survey to whomever in the department they felt best qualified to fill out the survey. The next objective of section one was to find out which types of departments were more likely to incorporate multimedia into their curriculum and to what extent. Finally, question three was used to filter out those departments that did not incorporate multimedia and send them to section three.

Section Two

       If the respondent indicated that multimedia was incorporated into the curriculum at his/her institution, he/she was asked to go on to complete section two, the section on current multimedia applications in the curriculum. Section two was designed to find out how departments were incorporating multimedia into their curriculum. The first question in the section, question four, inquired about applications used in multimedia creation -- specifically, which applications were integrated into their curriculum. Because there are a plethora of multimedia applications it would be an almost impossible task to list them all. Shelton (1993) wrote of multimedia, "[T]echnology is developing so rapidly that we can't pin down a realistic definition" (p.694). In order to overcome this problem, a category system was adopted. This system organized the applications into five categories that would hopefully encompass every application that might be used. The categories were as follows:

- Authoring software. This includes applications such as Authorware and Macromedia Director.

- HTML (hypertext markup language for World Wide Web Pages). This is the language of the Internet. It allows users to create text specifically for that hypermedia network.

- Image creation/editing software. This includes applications such as Adobe Photoshop and Illustrator. They are designed to create and edit still images.

- Video editing software. This software is designed to edit desktop clips. An example of this kind of software is Adobe Premiere.

- Desktop/non-linear editing. This includes applications such as Avid, Matrox or Media 100. These applications edit full-screen, full-motion video.

After indicating which applications they were currently using, respondents were asked to list the classes that used the above indicated materials. This was done to see how widespread the use of multimedia was in communication education. Respondents were also asked to list which departments taught these classes and whether they were required. This was done to determine which of these classes were taught in the department and which were taught outside of the department. The next two questions, questions six and seven, asked the respondent to categorize the previously listed classes as either "traditional" or "multimedia." With this information we wanted to determine where multimedia applications were being taught and how they were being taught. Were they incorporated in traditional classes or were new multimedia classes being created? Respondents were also asked whether or not the classes teaching these applications were considered "skills" oriented or "theoretically" oriented. The last few questions in section two asked whether a specific multimedia degree was offered and when it was first offered. Also, was it an undergraduate or a graduate degree? Finally, in order to assess student response to multimedia classes, a ranking of student attitude was solicited.

Section Three

Section three was intended to be answered by all who filled out the survey regardless of whether or not they currently incorporated multimedia into their curriculum. This section probed the respondents' outlook on the future of multimedia in communication education.

The first question listed the five categories of multimedia -- presentation, packaged, kiosk, networked and desktop video. Respondents were asked to categorize each these types of multimedia as either very important, important, no opinion, not very important or not at all important. An assessment as to which of these types of multimedia educators felt to be most important was desired.

Next the respondent was asked if they were aware of other departments that taught multimedia design. This was done to determine how interdisciplinary multimedia education was. Were multimedia applications being taught solely within the department or did other departments share some of the responsibility?

The next set of questions probed the respondent's opinion on multimedia education: Should multimedia creation be incorporated in the broadcast/media curriculum? Should new courses specifically dealing with multimedia creation be offered? If yes, should the class(es) be required? Should multimedia creation be incorporated into traditional courses (such as TV production and Audio Production)? If yes, should the class(es) be required? And finally, should multimedia classes be more "skills" oriented or more "theoretically" oriented?

Questions probing the institution's future plans for multimedia education included: Do you anticipate incorporating multimedia creation into your future curriculum? Do you plan to offer a major or emphasis area in multimedia? Do you *currently* have an active search underway for someone to teach multimedia? If no, do you expect your *next* search to include someone who can teach multimedia? Do you *anticipate* hiring faculty to teach in the area of multimedia in the near future?

Question 21 inquired as to what the respondent felt was the "biggest challenge for BEA member schools where multimedia instruction is a goal?" For this question four of the main challenges were listed as well as an "other" category. The respondent was asked to check the challenge he/she felt was the biggest challenge. The challenges listed were: finding qualified instructors; equipment/facilities; faculty development & support (staying up-to-date); and lack of standardization (software, hardware, and techniques).

Questions 22-24 of the survey were designed to ascertain membership opinion toward particular issues regarding BEA. Question 22 asked which, if any, other multimedia associations the member was involved with. Question 23 asked whether or not there was a need for a separate "multimedia division" at BEA and question 24 asked if BEA should adopt "multimedia" as a convention theme in the near future (See Appendix C).

The final question was designed to be open-ended in order to field comments, questions and suggestions. For this question respondents were simply asked to "use the space below to describe how your department plans to integrate multimedia (if you plan to integrate multimedia) or provide any other information you feel may be helpful" (See Appendix C).

CHAPTER 3

RESULTS

Of the 250 surveys sent out, 88 were returned for a return rate of 35.2%. Most of those 88 surveys came back within two months of being sent out. Three main groups filled out the survey -- professors (43.2%), dept. heads/chairs (28.4%), and directors (14.8%). Other responses included two managers, one engineer, three coordinators, one dean and one associate dean.

The large majority of respondents listed their departments as communication departments (48.9%). Another 19.3% described themselves as specifically broadcasting and 11.7% as journalism/mass communications. The remainder were described as Mass Communication (1.1%), Radio TV and Film (RTVF) (4.6%), Telecommunications (5.7%), Speech/Theater/Media Arts (5.7%), Instructional Technology (2.3%) or Interactive Multimedia departments (1.1%).

Some 62.5% said they incorporated multimedia creation in their curriculum. Those respondents went on to section two while the other 37.5% went directly to the future plans questions in section three.

Section Two

As described in the previous chapter, section two contained questions concerning incorporation of multimedia in *current* departmental curricula. This section essentially gets at the question of what is currently being done in communication/media departments as far as multimedia is concerned. The first question in this section dealt with different types of

multimedia -- specifically authoring software, HTML, image creation/editing software, video editing software and desktop video/non-linear editing systems. Of the 62.5% that said they incorporated multimedia into their current curricula, 44.6% use some type of image creation/editing software (i.e. Photoshop, Illustrator). A little more than 45% (45.5%) employ desktop video/non-linear editing systems in their curricula (i.e. Avid, Matrox, Media 100...Intended for output to tape or broadcast as full-screen, full-motion video). Another 38.6% use HTML (hypertext markup language for the World Wide Web). Almost 40% (37.5%) indicated use of video editing software such as Adobe Premiere (intended for use as desktop clips). Also, 36.4% indicated use of authoring software (i.e. Authorware, Macromedia Director, etc.). Finally, 14.8% listed use of applications that they felt did not fit into any of the above categories.

Next, respondents were asked to list classes that used the above mentioned applications and also in which department the classes were taught. Of the 36.4% who said they use authoring software, 87.5% teach it in their departments. A little more than 6% (6.3%) said it was taught both in and out of the department and the same percentage indicated the class listed was taught outside of the department. Nearly all of the desktop/non-linear editing systems classes were taught exclusively in their departments (95.0%). Only 2.5% of those classes were taught out of the department and only 5.0% were taught both in and out of the department. Of the 37.5% using video editing software 90.9% teach it exclusively in their departments. A little more than 6% (6.1%) indicated that it was taught out of the department and 6.1% also said it was taught both in and out of the

department. Some 9.8% of the classes listed for image creation applications are taught outside the department. Another 75.6% are taught within the department and 4.9% said the class listed was taught both in and out of the department. A little less than 80% (79.4%) teach HTML in the department. Another 8.8% of the HTML classes listed were taught out of the department and 2.9% were taught both in and out of the department (See Table 1).

Respondents were also asked whether the classes previously mentioned were required and whether they were taught as separate multimedia classes or if those skills were incorporated into traditional classes. The authoring software classes were mainly labeled "multimedia" (78.1%). Also, whether the classes were considered multimedia or traditional, 37.5% of these classes were required. Desktop video/non-linear editing systems classes were mainly taught in what were considered traditional classes (85.0%) and 50.0% of the classes that use these kind of applications were required. Slightly more than 45% (45.5%) require the video editing software class listed and 75.8% teach this software in traditional classes. About half of the classes (43.9%) listed that incorporate image creation applications were considered traditional and only 31.7% of these classes listed were required. Almost half (41.2%) of the classes listed that use HTML were considered multimedia classes and 29.5% of those same classes were required (See Table 2).

Nearly half (49.1%) consider the classes they listed as equally skills and theoretically oriented. A little more than 45% (45.5%) consider the classes simply skills oriented and only 1.8% considered the classes mainly theoretical.

Table 1

Percent of classes listed that are taught in the department, out of the department or both in
and out of the department

Category	In Dept.	Out Dept.	Both
		Percent	
Authoring software	87.5	6.3	6.3
HTML	79.4	8.8	2.9
Image creation/editing software	75.6	9.8	4.9
Video editing software	90.9	6.1	6.1
Desktop video/non-linear editing	95.0	2.5	5.0

Almost 8% (7.4%) indicated that they currently offer a degree in multimedia. Of the
three respondents that offer degrees, two indicated that the degrees were undergraduate and
one respondent indicated that both an undergraduate and a graduate degree was offered.

The final question in this section dealt with student response. When respondents
were asked about student response to multimedia classes the response was noted as mainly
"favorable" (39.6%) and "very favorable" (47.2%). Only 1.9% considered student response
to be "very unfavorable" (See Table 3).

Table 2

Percent of classes listed that are required and percent of those same classes that are
considered multimedia, traditional or both multimedia and traditional

Category	Req.	Multimedia	Traditional	Both
			Percent	
Authoring software	37.5	78.1	12.5	3.1
HTML	29.5	41.2	38.2	8.8
Image creation software	31.7	39.0	43.9	0.0
Video editing software	45.5	24.2	75.8	3.0
Desktop video/non-linear editing	50.0	17.5	85.0	0.0

Section Three

In this section future plans for multimedia incorporation into the curricula were
discussed. All respondents were asked to reply to the questions in this section. The first
question in the section asked the respondent to rate five different types of multimedia as to
their importance to broadcast/media curriculum. The five types of multimedia included:

- Presentation multimedia (i.e. computer-based multimedia material for linear
  presentation -- non-interactive)

- <u>Packaged multimedia</u> (i.e. creation of interactive CD-Rom or CD-I)

- <u>Kiosk multimedia</u> (i.e. interactive programs housed in desktop systems, or self-contained units such as those found in malls, offices, travel agencies, student unions, etc.)

- <u>Networked multimedia</u> (i.e. the World Wide Web or interactive cable/TV services)

- <u>Desktop video/audio (non-linear editing)</u> (i.e. the use of computers for video/audio production -- editing of digital audio & video)

Desktop video/audio (non-linear editing) was considered the most important. It was considered "very important" by 73.9% of the people who answered the survey. The other forms of multimedia received fairly low scores in the "very important" category (See Table 4). Presentation multimedia (46.6%), packaged multimedia (40.9%) and networked multimedia (43.2%) received their highest scores under the "important" category. Kiosk multimedia received fairly equal scores in both the "important" category (26.1%), "not very important" category (22.7%) and the "no opinion" category (25.0%) (See Table 4).

A little more than half (51.1%) of the respondents indicated that they were aware of other departments beside their own that taught multimedia courses. The majority of those respondents (24.5%) said it was taught in art departments. Twenty percent said it was taught in either instructional design (education) departments. Just under 18% (17.8%) indicated that these classes were taught in art/computer science departments (See Table 5).

Table 3

Respondent's perception of student response to multimedia classes

Response

	Percent
Very Favorable	47.2
Favorable	39.6
Neither Favorable nor Unfavorable	11.3
Unfavorable	0.0
Very Unfavorable	1.9

Should multimedia creation be incorporated in the broadcast/media curriculum? The overwhelming majority (90.9%) of the respondents said yes. A little less than 80% (79.6%) said new courses specifically dealing with multimedia creation should be offered, and 34.8% said these courses should be required. Almost 80% (77.3%) also thought that multimedia should simply be incorporated into traditional courses (such as TV and Audio Production), and 64.7% thought those courses should be required.

Table 4

Ratings of multimedia categories as to their importance (or lack of importance) to broadcast/media curricula in general

Category	V. I.	I.	N. O.	N. V. I.	N. A. A. I.
			Percent		
Presentation	18.2	46.6	14.8	10.2	3.4
Packaged	21.6	40.9	13.6	10.2	5.7
Kiosk	5.7	26.1	25.0	22.7	10.2
Networked	35.2	43.2	8.0	3.4	2.3
Desktop	73.9	13.6	1.1	2.3	2.3

Note:

V.I.=very important; I.=important; N.O.=no opinion; N.V.I.=not very important and N.A.A.I.=not at all important

That these classes should be both skills and theory oriented was indicated by 77.3% of the respondents. No one indicated that the classes should be strictly theoretical in nature, and only 18.2% thought the classes should be more skills oriented.

Table 5

Other departments that teach multimedia applications

Department

	Percent
Art	24.5
Computer Science	8.9
Art and Computer Science	17.8
Instructional Design (Education)	20.0
English/Language	2.2
Business	4.4
Architecture	2.2
Journalism	4.4
3 or more	15.6

The majority (90.9%) anticipated incorporating multimedia creation into their future curricula, and 22.7% planned to offer a major or emphasis in this area. Almost 10% (9.2%) currently had a search underway for someone to teach multimedia and 36.8% expected their next search to include someone who could teach multimedia. Another 30.7% anticipated hiring faculty to teach in the area of multimedia in the near future.

Question 21 dealt with challenges facing schools where multimedia instruction is a goal. The biggest challenge cited was equipment and facilities (45.5%). The next biggest challenge cited was faculty development and support or staying up to date. A little less than 40% (36.4%) indicated that was a problem. Only 10.2% said finding qualified instructors was the biggest challenge and 8.0% said lack of standardization in software, hardware, and techniques was the biggest challenge. Other responses included money (3 responses), administrative commitment (2 responses), curriculum (1 response), vision (1 response), time (1 response) and all of the above (1 response) (See Table 6).

Nearly 85% (84.1%) did not belong to any multimedia associations such as the Interactive Multimedia Association, or the National Multimedia Association of America. Of those that listed affiliation with associations most belonged to the Interactive Multimedia Association (3 responses). Seven other associations were listed. Each of them had one response.

Questions 23 and 24 asked if there was a need for a multimedia division in BEA and if BEA should adopt "multimedia" as a convention theme in the near future. Nearly 53% (52.3%) did not see a need for a multimedia division in BEA, but 67.1% said they would like to see "multimedia" as a convention theme. The respondents were also asked to list what they felt a BEA multimedia division should consist of. If they did not feel there was a need

Table 6

Percent who considered the following as challenges facing schools where multimedia instruction is a goal

Challenges

	Percent
Finding qualified Instrustors	10.2
Equipment/Facilities	45.5
Faculty Dev. & Support	36.4
Lack of standardization	8.0
Other	10.2

for such a division they were asked how multimedia could be incorporated into existing divisions (See Appendix C).

Question 25 asked the respondents to describe how they planned to incorporate multimedia (if they planned to) and to provide any other information that may be helpful (see Appendix C).

CHAPTER 4

DISCUSSION OF RESULTS

This survey was designed to ascertain the state of multimedia education at BEA member institutions. Are BEA member institutions teaching multimedia? If yes, what applications are being taught? Also, what aspects of multimedia do BEA educators find most relevant to the communication field? It was found that the respondents, for the most part, were indeed incorporating multimedia into their curriculum. Furthermore, the percentages of use for the multimedia categories listed were basically similar. Finally, an interesting pattern to multimedia integration into communication education was discovered. This pattern involved two concepts of multimedia: 1) multimedia as a new form of communication (HTML, CD-ROMs, etc.), and 2) multimedia as a tool to enhance traditional forms of communication (broadcast news, print journalism, etc.). It was found that educators considered multimedia applications used to enhance traditional forms of communication (i.e. image creation software, desktop/non-linear editing applications) as most important.

Section One

It is interesting to note that the survey was mainly filled out by professors. This may indicate that either administration is unfamiliar with multimedia issues or unconcerned with them, remembering though that unfamiliarity does not necessarily equate apathy. This may also simply indicate that administrators, whatever their disposition towards multimedia, have faculty they considered more qualified to fill out the survey or that policy or procedure prevented them from filling out the survey. Whatever the case, 43.2% of the respondents,

though they may participate in policy making, are in positions generally considered "non-policy-making."

Nearly half (48.9%) of the respondents were from communication departments. This certainly may have affected the results of the survey. Communication departments are noted for their diversity. They have traditionally included a wide variety of disciplines including print journalism, broadcast journalism, speech, public relations, advertising/marketing, etc. This would make them likely candidates for various multimedia applications used to enhance traditional forms of communication; not to mention newer forms of multimedia such as, various forms of packaged and networked multimedia applications. If the majority of respondents were from broadcasting or RTVF departments the results, rather than seeing multimedia applications used at similar percentages, may have been skewed more prominently towards certain types of multimedia applications.

Nearly two-thirds of the respondents (62.5%) incorporate multimedia into their curricula. This is a good indicator that multimedia is being addressed at some level within communication/media programs in higher education. Those 62.5% were directed to go to section two.

Section Two

In section two, inquiries about the types of multimedia applications being used were made. It was not surprising to find out that the multimedia applications incorporated by most institutions were image creation software (44.6%) and desktop/non-linear editing software

(45.5%). These applications deal with still and moving pictures. Traditionally communication/media departments have taught still and moving image creation in classes such as video production and photojournalism. Today technology provides the capability to produce those images more efficiently. As Thompson indicated, "[t]he digital communications concept applies and extends the methods and skills presented in a traditional curriculum" (p. 38). New technology simply "provides the tools with which today's students are most familiar" (p. 39) and these tools allow communicators to produce their messages more efficiently. The advantages of non-linear computer editing as opposed to analog editing include the ability to easily insert material, lack of generational loss and time efficiency. Similarly, image creation software provides an efficient means of editing and creating still images. The multimedia applications mentioned above are simply part of the next generation of equipment being used to carry out already established communication tasks. This goes back to the idea of the two concepts of multimedia. While the percentages of use for the applications mentioned in this survey were fairly similar, the highest percentage of use was found in applications used to carry out traditional communication tasks (i.e. image creation and non-linear editing). The lowest percentage, besides the "other" category, was given to authoring software (36.4%). Authoring software is generally used to create CD-ROMs or other forms of packaged multimedia communication -- a fairly new concept in communication. This is not to say that authoring software applications were not being used. The percentage for use of these applications was only slightly lower than those of the other applications. Also included was an "other" category for those applications that

did not fall into any of the other categories. Interestingly enough nearly 15% (14.8%) of the respondents indicated that they used multimedia creation applications that did not fall into any of these categories. This indicates either the wide variety of multimedia applications available, the assorted interpretations of these applications or the ambiguity of the question. For instance, animation was listed several times in the "other" category when it could have just as easily been placed in the image creation section or the video editing section since animation involves the use of both these types of multimedia applications.

Next it was discovered that the large portion of multimedia application teaching was done within the department. All of the percentages of classes taught within the department were in the double digits (See Table 1), and, once again, desktop/non-linear editing led the pack with 95.0% of its classes taught within the department and only 2.5% taught outside of the department. This is not surprising because desktop/non-linear editing involves a skill that has historically been used for communication (video editing).

Image creation software, while taught 75.6% of the time within the department, was the application most taught outside of the department (9.8%). This may be because departments such as art and graphic design are also involved with image creation. While communication/media departments focus on image creation as a media communication tool, others use image creation as a tool of artistic expression and therefore also lay claim to certain multimedia applications.

Nearly 9% (8.8%) of the HTML classes listed were also taught outside the department. This application might be taught in business information systems departments

or even computer science departments. As indicated in chapter one, the Internet is an ever-growing phenomenon. Gilder estimates that computer technology is doubling in power ever year to 18 months. He also acknowledges that between 1989 and 1993 the portion of computers connected to networks rose from under 10% to over 60% (Gilder, 1995). Classes in HTML would therefore be popular both in and out of communication/media departments. However, for the most part, communication/media departments were taking ownership of the multimedia classes listed in the survey.

BEA's task force report stated, "...there is no better location for multimedia education than in media/communication departments/schools/colleges" (Broadcast Education Association [BEA], 1996, p.9). The task force also concluded that while other departments may teach multimedia, their focus is narrow and limited. Only communication/media departments are "broad enough in scope to host inquiry from each of these perspectives..." It is this fact that puts communication departments in a position to "provide curricular cohesion and pedagogical leadership" (BEA, 1996, p.9). It would appear, according to this survey, that communication/media departments are in fact taking the lead in multimedia pedagogy. This is a natural consequence since most multimedia applications are essentially communication-related.

These numbers may lead one to believe, however, that communication departments are not looking for an interdisciplinary approach to teaching communication technology. This may be because communication applications for this software are specific enough to warrant specific training in the department. This does not mean, however, that there is not

a movement towards interdisciplinary multimedia education. At least one respondent indicated that, "[A]ll departments in the school of Liberal Arts are working together with computer science to create an interdisciplinary multimedia studies program." In fact the task force is encouraging active pursuit of "interdisciplinary courses, creative projects and research" (BEA, 1996, p.10).

Most respondents reported that they did not require the previously mentioned classes. It's already difficult to discriminate among a great number of valuable classes and to designate only a certain few as "required." In some cases, these programs may have credit hour limitations imposed by university or departmental policy, state mandate, or an accrediting body. For example, one of the curriculum standards set forth by the Accrediting Council for Education in Journalism and Mass Communication (ACEJMC) states that accredited programs must require 90 semester hours of general education outside of the department, and of those 90 hours, 65 must be in the basic liberal arts and sciences. An average undergraduate degree usually requires 120-128 semester hours. This leaves only 30-38 hours for departmental classes. The idea of requiring a new class or set of classes further hinders administrative efforts to fulfill policy or mandates which limit the number of classes a department may require.

In response to whether the classes listed were considered multimedia or traditional some of the greatest differences within this study were found. Educators seemed to feel that desktop/non-linear editing and video editing application classes were generally within the realm of traditional classes (85.0%) (See Table 4). This might be expected because these

applications are commonly used to enhance and expand traditional forms of communication. It is more likely that multimedia will be incorporated into traditional courses where there is already a concept, such as video editing, being taught. Authoring software classes were largely considered an appropriate activity for specifically multimedia classes (78.1%). This may be because these classes involve software that is usually associated with newer forms of communication such as CD-ROM authoring -- applications where the communication mode is not as traditional.

Even though Garcia and Smith caution against teaching multimedia skills or using technology in the classroom, almost none of the professional educators surveyed agreed with that method of teaching (O'Donnell, 1995; Smith, 1994). Respondents to this survey seem to agree that multimedia is not a strictly theoretical application. Even though learning multimedia applications involves a lot of technical expertise, educators realize the importance of teaching communication theory in addition to skills. In fact, 49.1% of the classes listed were considered both skills and theory oriented. Kamalipour (1992) warns us that, "...it is imperative not to fall into the trap of thinking that either technical skills or theoretical knowledge alone can prepare broadcast students for the professional world" (p.3). Perhaps the reason the percentage of skills/theory classes (49.1%) is not higher in current courses lies in the fact that multimedia creation applications are still fairly new. In fact, they are growing and changing at such a phenomenal rate that it is difficult to incorporate both skills and theory in one class. The fact that only 1.8% consider these classes strictly theoretical indicates the importance educators place on learning multimedia skills.

Nearly 8% (7.4%) offer some kind of multimedia degree. In each case these degrees were fairly new (less than 6 years old). While this number may appear on the surface to be low, combined with the knowledge that 22.7% have plans to offer some kind of multimedia degree in the near future, this seems to indicate a trend toward multimedia education. Whether those degrees will focus on multimedia to enhance and expand traditional communication or multimedia as an interactive communication tool is yet to be seen.

Thompson (1995) indicated that today's college students have grown up with the computer. Indeed, computers are used in high schools, junior high schools, and sometimes even at the grade school level. Many students even have access to computers at home. Thompson feels that digital communications simply "provides students with tools which [they] are most familiar" (p. 39). In light of these facts, a very favorable response to multimedia classes was expected. Indeed nearly 87% (86.8%) of the respondents indicated either "very favorable" or "favorable" response to multimedia classes. And even though 1.9% did indicate "very unfavorable response", the numbers clearly indicate that educators believe today's college students are favorably inclined towards multimedia.

Section Three

In this section, as in section one, all respondents (regardless as to whether they were currently using multimedia) were asked to reply to the following questions. The first question in section three referred back to the five categories of multimedia -- presentation multimedia, packaged multimedia, kiosk multimedia, networked multimedia and desktop

video/audio (non-linear) multimedia. Desktop video/audio (non-linear) editing was considered the most important (See Table 4). It had, by far, the greatest number of responses in the "very important" category (73.9%). Even the second highest percentage in the "very important" category (networked multimedia) was only 35.2% -- less than half the response non-linear editing received. This may be because educators still see their field in mainly traditional ways and non-linear editing classes deal with concepts of traditional communication (video production).

Even though studies show the increasing popularity of non-traditional forms of communication (i.e. the Internet, CD-ROM, etc.), communication educators are still unfamiliar with these new technologies and new media in general. The interactive world is a new experience for traditionally-trained educators educated in non-interactive media. This may explain the fact that while desktop non-linear editing enjoyed a 73.9% response in the "very important" category, kiosk multimedia received a score of only 5.7% in the same category. Presentation, packaged, kiosk and networked multimedia received their highest scores in the "important" category (See Table 4). This may indicate that educators are beginning to realize the potential for these types of media. In fact, if we combine the percentages in the "very important" and "important" categories, networked multimedia (78.4%) was not far behind desktop video/audio (non-linear) editing (87.5%), and presentation (64.8%) and packaged (62.5%) multimedia were not far behind that. Only kiosk multimedia, at 31.8%, experienced a fairly low number when the "very important" and "important" categories were combined. These numbers indicate that multimedia

communication is viewed as somewhat important, however loyalty seems to remain with traditional forms of communication.

A little more than half (51.1%) of the respondents were aware of departments, other than their own, that taught multimedia (See Table 5). Of that 51.1%, 24.5% indicated that those departments were classified as art departments. This may be due to the fact that certain multimedia applications deal with image creation and art departments have a vested interest in this area. Of course while artists teach applications like Adobe Photoshop and Adobe Premiere as tools of artistic expression a communication educators goals in teaching the same applications will be slightly different. A communication educator will focus on the storytelling and news value of the image as opposed to focusing solely on artistic value. Another 20% indicated the departments that taught multimedia (other than their own) were instructional design or education departments. These departments are likely candidates for multimedia education because they are both involved in information dissemination. However, instructional design and education departments are concerned mainly with information dissemination as an educational tool. Often the technology is used for individual instruction where a student works alone at a computer. The end goal and even the specific multimedia form are likely to be different from that of communication/media programs. Communication/media programs focus more on entertainment and news and often involve more of a point-to-mass approach to information dissemination, even when interactivity is utilized. Art/computer science departments accounted for almost 18% (17.8%) of the responses. This is natural since these are the departments that design the hardware and

software that make multimedia possible in the first place. Once again though, the focus of these multimedia classes is most likely markedly different from that of communication multimedia classes.

The overwhelming majority (90.9%) recorded favorable responses to incorporating multimedia into the broadcast/communication curriculum. Even though respondents to this survey were a self-selecting specialized population, this would indicate that multimedia education is considered to be of some importance. These figures may be due to the recent popularity of multimedia forms of communication such as the Internet or packaged multimedia communications like CD-ROMS. Multimedia applications are certainly very popular. The advantages of using multimedia to enhance existing forms of communication, as well as the hype over new technologies such as the Internet and other networked and packaged communications systems has also led to the popularity of multimedia applications (Lock, 1995). As was mentioned in chapter one, there are already at least 3200 on-line newspapers (Goldsborough, 1995). In April of 1995 eight of the nation's largest newspaper companies banded together to create a network of local on-line newspaper services. This group was designed to provide technical assistance to help newspapers publish on the World Wide Web. Clearly there is a trend toward multimedia communication.

Nearly 80% (79.6%) showed support for offering courses specifically dealing with multimedia, and nearly 3.5 of every 10 respondents (34.8%) felt that these classes should be required. Meanwhile, almost the same percent (77.3%) indicated a desire to incorporate multimedia into their curriculum as part of traditional classes and 64.7% said that these

classes should be required -- almost twice the rate at which respondents felt classes dealing specifically with multimedia should be required. This reflects the idea that communication educators view multimedia used to enhance traditional communication with greater importance then newer forms of multimedia communication. Institutions appear to be holding on to the idea of simply replacing old tools with new as multimedia is integrated into traditional courses.

This corresponds with some of the responses to Hudson's e-mail survey. A respondent to that survey wrote, "I believe we've always been 'multimedia' (i.e. audio/video/performance etc.) And, even these other categories represent what broadcasting is hoping to become (i.e. using an additional channel for a range of services)." Another respondent wrote, "Why the term 'multimedia?' Interactive multimedia is not new and is more the same than different ... The differences should be seen as threads running through the whole rather than a new medium requiring many new courses and substantial retraining" (See Appendix D).

Whether this indicates that use of multimedia for multimedia communication rather than traditional communication is not an educational priority for these institutions is yet to be determined. It may simply be a matter of time before multimedia communication becomes as important as what we traditionally think of as communication. As other forms of communication emerge and new concepts of communication are perceived, courses will continue to be reevaluated and education will reflect that. Gross (1993) wrote, "Innovation is not simply a matter of adding new courses to the curriculum. It means having the courage

to question those that are no longer relevant, and to abandon those that have become obsolete" (p.13).

Even though many of the courses listed in section two of the survey were not required, the fact that 64.7% of the respondents in section three indicated that traditional courses incorporating multimedia should be required clearly shows a desire to require these classes. Whatever is keeping multimedia classes from being required right now (university policy, departmental mandate, accrediting bodies, etc.) educators seem to realize the importance of these classes and hence the importance of requiring them. Even though multimedia courses or even traditional courses incorporating multimedia are not at this time generally required (See Table 2), we can expect that they will be in the future -- that is, if respondents to this survey have a voice in the decision.

It is particularly interesting that while multimedia is very much skills oriented, few respondents reported plans for a strictly skills-oriented course (18.2%). Most (77.3%), in fact, felt that future classes should be both skills- and theory-oriented, and while 1.8% of current classes were considered strictly theoretical, none of those that responded indicated plans for creating a strictly theoretical multimedia class. There could be several reasons for this. There may not be student interest or enough faculty to teach a theory class. Also, it may already be incorporated into traditional theory classes. Another possibility is that educators feel multimedia communication theory can be better taught "hands on" -- in sequence with teaching multimedia skills -- as opposed to teaching it in a regular classroom.

The fact that only 9.2% currently had a search underway for someone to teach multimedia needs to take into account that many departments may not have had a search underway for any postition. In this light 9.2% may seem fairly high. More striking is the fact that nearly 4 out of 10 surveyed (36.8%) said that their next search would be a multimedia position and 30.7% "anticipate" hiring faculty to teach multimedia in the near future. Considering the number of potential postitions (especially in a broad-based communication department), this seems quite significant. A department's search could include someone to teach among a wide range of classes, such as copy editing, public relations, advertising, law, reporting, general communications, gender issues, video production, audio, broadcast journalism, photojournalism, or research and the list goes on. Also, these departments may already have faculty capable of teaching multimedia or they may intend to train current faculty to teach multimedia courses.

"What would you say is the biggest challenge for BEA member schools where multimedia instruction is a goal?" The biggest challenge cited was equipment and facilities (45.5%). Shelton (1993) wrote that multimedia is "expensive to create, maintain, and use" (p. 694). This is especially true considering how rapidly multimedia technologies change. This leads to the next highest response, or the second biggest challenge faced -- staying up to date. "Faculty development and support (staying up-to-date)" was considered to be a challenge by 36.4% of the respondents. This includes training faculty to use and teach the latest multimedia tools. With ever-changing technology it is not surprising that staying current would be considered a challenge. This may indicate an area where college graduates

might find a job -- training faculty to use new technologies. Only 10.2% indicated that finding qualified instructors was a challenge. This could be because, as the previous question indicated, searches may not currently be underway to find qualified instructors and so finding such instructors is not a challenge at the present time. Also, as mentioned earlier, this may indicate the fact that qualified instructors either already exist at these schools or that current faculty are being trained on the job. Other respondents claimed money, administrative commitment, curriculum, vision and time as challenges. One particularly pessimistic respondent simply replied "all of the above" (See Table 6).

With the last three questions BEA was interested in finding out what other multimedia-related associations its membership was involved with, also if there was a need for a multimedia division in BEA and finally if BEA should adopt "multimedia" as a convention theme in the near future. Most responded that they did not belong to any other multimedia organizations or associations (84.1%). Even with the explosion of multimedia influence, most respondents have not joined other multimedia organizations.

Respondents were pretty much equally divided on the issue of a multimedia division. A little more than 52% (52.3%) thought that a new division was unnecessary. In the end, BEA decided not to create a new division, but to instead encourage multimedia incorporation into all existing divisions. "This is not because multimedia is too narrow an interest, but perhaps because it is so broad" (BEA, 1996, p.11).

As far as adopting multimedia as a theme for a convention in the near future, most respondents were in support of the idea (67.1%). Interestingly enough, the theme for the

1997 BEA convention is "Reinventing Electronic Media: Multimedia in the New Millennium" (Anderson, 1995).

Limitations, Implications and Suggestions for Future Research

The first and foremost limitation of this study was the number of people that actually responded -- only 88 people responded (35.2%). A better response rate might have been yielded if follow-up reminder cards were sent out. The response rate might also have been better if another method of delivery had been chosen. E-mail was briefly considered as the delivery mode for this survey. This idea was discarded because a complete list of e-mail addresses for BEA institutional members was not available. The pros of an e-mail survey are 1) less expense, 2) time efficiency, and 3) ease of response. Also e-mail makes it easier to send follow-up reminders. This certainly could have increased the response rate.

Another weakness of the survey was the fact that it was a specialized population that was surveyed. Even though this survey revolved around a specific topic related to this population it might have been better if a broader base of communication educators were included in the survey.

The ambiguity of the definition of multimedia and peoples' widely varying perception of multimedia was another limitation. A clearer definition of that and other terms would have been helpful. The discussion of the information received was not as edifying as it could have been because perceptions of the respondents and how they categorized classes, etc., was relied upon. This inability to retrieve more specific information was one of the biggest

limitations of this study. One way to overcome this problem might be to narrow the focus of the survey and ask more specific questions. In this way the information could be taken and categorized by the survey developer(s) instead of depending on different respondents' varying perceptions. This would ensure more consistent categorization.

Another suggestion for further research would be to employ several smaller more explicit surveys. One survey might look at specifically how multimedia creation is being taught -- both in and out of communication/media departments. Course syllabi could be gathered and evaluated. Studies on the theory of multimedia communication could be conducted. A survey probing attitudes of administration and others in policy-making positions would also be beneficial. An employer survey specifically focusing on new technologies would also be serviceable. This survey could take a look at skills employers look for or it could focus on applications being used in the communication industry. A survey of what traditional communicators are doing as well as a survey of what non-traditional communicators are doing would be interesting and useful. Also, a longitudinal study looking at a possible shift from traditional forms of communication to interactive multimedia communications would be interesting. Certainly there are several studies that can be conducted to determine the future of communication and, more particularly, the future of multimedia in communication.

The findings in this survey would suggest that BEA institutional members who returned this survey believe multimedia to be important to the communication/media curriculum. This is indicated by the fact that the majority of respondents are already

integrating multimedia into their curriculum; not to mention the fact that respondents indicated plans are being made to further implement multimedia into the curriculum. While over 60% did not return the survey, we cannot assume that this indicates a negative attitude towards multimedia. Busy schedules and lack of follow-up by the survey developers may have precluded greater survey response.

The concept of interactive multimedia communication is fairly new. This is indicated by the fact that multimedia as a tool to enhance and expand current/traditional forms of communication was considered to be most important (See Table 4) and was also used more in the classroom. However, the fact that networked and packaged multimedia were considered "important" indicates that educators are starting to see the possibilities of using multimedia as a new form of communication as opposed to simply treating it as a tool to enhance traditional forms of communication.

Lock (1995) wrote, "As our global society becomes firmly ensconced in the electronic age, the perspective and vision we have as a result of the immediacy of electronic communication has drastically changed" (p.9). That same "perspective and vision" will continue to change as technology changes and multimedia forms of communication become more common place. As this happens we may see a shift from more traditional forms of communication to interactive multimedia communication, and this will, in turn, certainly affect education. Already the occurrence of multimedia communication jobs is on the rise, and, as discussed earlier, courses are being planned in response to that (Steven Anderson, personal communication, May 24, 1996). It is apparent that multimedia is an active force

in the communication industry today, and, as multimedia becomes more prevelant, use of

multimedia in education as well as industry will not only increase, but will probably change

in nature as multimedia changes the face of communication.

REFERENCES

REFERENCES

Anderson, S.D. (1993). The development of a class in electronic news gathering. Feedback, 34, (1), 24-26.

Anderson, S.D. (1995). Institutional membership. [WWW Document] URL http://www.usu.edu/~bea/institu.html, (Accessed 1996).

Anderson, S.D. (1996). 1997 convention information. [WWW Document] URL http://www.usu.edu/~bea/97conv/97conv.html, (Accessed 1996).

Aumente, J. (1994 October 31). Panel vision. American Journalism Review, pp. 34-39.

Baker, D.B. (1995). The right stuff in communications education. [WWW Document] URL http://web.bu.edu/COM/html/baker2.html, (Accessed 1995).

Barnhurst, K.G. (1991). Curriculum and instruction in visual communication. Journalism Educator, 46, (1), 4-8.

Broadcast Education Association. (1996). Report of the 1995-96 BEA multimedia task force. Unpublished manuscript.

Carvin, A. (1995). The wonders of hypertext: Non-linear informational adventures. [WWW Document] URL http://edweb.cnidr.org:90/web.hypertext.html, (Accessed 1996).

Dahmer, B. (1993). When technologies connect. Training and Development, 47, (1), 46-55.

Davenport, L.D. & DeFleur, M.H. (1993). Innovation lag: Computer-assisted classrooms vs. newsrooms. Journalism Educator, 48, (1), 26-36.

Eiden, J. & Misiewicz, J. (1994). Newsroom electronics bridge gap between students, faculty, classroom. Feedback, 35, (3), 14-16.

Eilers, H. F. (1989). Microcomputers remove paper from many university labs to keep step with industry. Journalism Educator, 43, (4), 38-43 & 48.

Elmer-Dewitt, P. (1993). Take a trip into the future on the electronic superhighway. Time, 141, (15), 50-55.

Ferraro, C.D. (1989). Desktop video uses synergy of computer, video camera. Journalism Educator, 44, (3), 37-40.

Ferraro, C.D. (1993). Embracing changes: Teaching the factors of computer-based image construction and manipulation. Feedback, 34, (3), 20-25.

Ferraro, C.D. & Olson, B. (1993). Teaching from the desktop: The use of microcomputers in video production at U.S. colleges and universities. Feedback, 34, (4), 8-11.

Fitzgerald, M. (1994, February 19). Envisioning the Electronic Newspaper. Editor & Publisher, p. 20.

Gardiner, W.L. (1994). What to do now the revolution is over. Feedback, 35, (2), 14-18

Gilder, G. (1994). Life after television. New York; W.W. Norton.

Goldsborough, R. (1995, September). News paperless. Internet World, pp. 40-44.

Griffin, M. (1991). Defining visual communication for a multi-media world. Journalism Educator, 32, (2), 9-15.

Gross, H. (1993). Breaking with tradition: Developing new media curriculum. Feedback, 34, (1), 10-13.

Gullifor, P.F. (1991). Is state-of-the-art equipment really necessary? Feedback, 32, (2), 16-17.

Heba, G. (1994, November 3-4). After words: A rhetoric of multimedia communication. Paper presented at the Society for Technical Communication Conference, ED377530

Horton, W. (1993). Do new media need technical writers? Do technical writers need new media? Technical Communication, 40, (4), 794- 796.

Hudson, T. (1991). State-of-the-art capabilities are necessary. Feedback, 32, (3), 20.

Kamalipour, Y.R. (1992). Broadcast education vs. vocational education. Feedback, 33, (1), 2-3.

Kerns, H.D. & Johnson, N. (1994, October 12-16). Ingredients to successful students presentations: It's more than just a sum of raw materials. Selected readings from the Annual Conference of the International Visual Literacy Association, ED380068

Kerr, S.T. (1986). Instructional text: The transition from page to screen, <u>Visible Language</u>, <u>20</u>, (4), 368-392.

Lee, K.C. & Fleming, C.A. (1995). Problems of introducing courses in computer assisted reporting. <u>Journalism & Mass Communicator</u>, <u>50</u>, (3), 23-33.

Lock, J.J. (1995). The internet as mass medium: The media enter the world of cyberspace. <u>Feedback,</u> <u>36</u>, (4), 7-10.

Martin, J. (1995). The challenge of interactive technical communication. <u>Technical Communication</u>, <u>42</u>, (1), 95-98.

McCall, J. (1993, April 16-19). <u>The media workshop hybrid in media education reform</u>. Paper presented at the Annual Meeting of the Broadcast Education Association, ED359573

Miller, E. J. (1992, Fall). Exploring a new synthesis: Multimedia in the video production curriculum. <u>Feedback,</u> <u>33</u>, (4), 2-7.

O'Donnell, M. (1995). Teaching publication design with desktop technology. <u>Journalism Educator</u>, <u>49</u>, (4), 47-56.

Oz, E. & White, L.D. (1993). Multimedia for better training. <u>Journal of Systems Management</u>, <u>44</u>, (5), 34-42

Perrigo, E.M. (1994, November 19-22). <u>Business and professional communication: Where are we now? Are we teaching skills that are necessary in business today?</u> Paper presented at the Annual Meeting of the Speech Communication Association, ED378618

Pool, I. de S. (1983). <u>Technologies of freedom</u>. Cambrigdge, Mass., London: The Belknap Press of Harvard University Press.

Rarey, D. (1990). A brief history of the TV graphics revolution. <u>Feedback,</u> <u>31</u>, (2), 9-10

Schamber, L. (1991). Core course in visual literacy for ideas, not techniques. <u>Journalism Educator</u>, <u>46</u>, (1), 16-21.

Scott, S.D. (1995). The technological challenge for curriculum and instruction. <u>Journalism and Mass Communication Educator</u>, <u>50</u>, (2), 30-40.

Shelton, S.M. (1993). Multimedia. <u>Technical Communication, 40,</u> (4), 694-704.

Simpson, T.J. (1994, October 12-16). <u>Message into medium: An extension of the dual coding hypothesis</u>. Selected readings from the Annual Conference of the International Visual Literacy Association, ED380084

Smith, W.E. (1990). News writing students prefer computer simulations. <u>Journalism Educator, 45,</u> (2), 38-44.

Smith, W.E. (1994). Computer-Mediated communication: An Experimental Study. <u>Journalism Educator, 48,</u> (4), 27-33.

Snow, K. (1996). <u>Brigham Young Magazine, 50,</u> (2), 4

Snyder, J. (1996, June). <u>Internet World,</u> pp. 96-97

Thompson, D.R. (1995). Digital communications: A modular approach to curriculum. <u>Journalism & Mass Communication Educator, 50,</u> (3), 35-40.

Thompson, D.R. (1994, July 11-15). <u>New technology and the newspaper of the future: Some effect of modality, story type and search experience on information location</u>. Paper presented at the Annual Meeting of the International Communication Association, ED374407.

Vogel, R.A., Shulman, G.M. & Jenisch, R.A. (1990). Teaching interactive video. <u>Feedback, 31,</u> (2), 22-23.

Williams, S.H. (1992). Innovative techniques for moving toward conceptually-based television production courses. <u>Feedback, 33,</u> (4), 18-21 & 27.

Ziegler, D. & Costello, V. (1992). Interactive multimedia: A tool for broadcast educators. <u>Feedback, 33,</u> (4), 8-11.

BIBLIOGRAPHY

BIBLIOGRAPHY

Beck, C.E. (1995). Theory and the profession. <u>Technical Communication</u>, <u>42</u>, (1), 133-141.

Brown, Jr., L.W. (1991). Equipment broadcast students need to know. <u>Feedback</u>, <u>32</u>, (3), 21 & 26.

Dennis, E. E. & Pavlik, J.V. (1993). <u>Demystifying media technology</u>. Mountain View California, London, Toronto; Mayfield Publishing Company.

Dizard, Jr., W. (1994). <u>Old media new media mass communications in the information age</u>. New York, London; Longman Publishing Group.

Forrest, E.J., James, M.L. & Wotring, C.E. (1995). An exploratory study of the perceived benefits of electronic bulletin board use and their impact on other communication activities. <u>Journal of Broadcasting & Electronic Media</u>, <u>39</u>, (1), 30-50.

Fulton, K. (1993 November/December). Future tense: The anxious journey of a technaphobe. <u>Columbia Journalism Review</u>, <u>32</u>, 29-33.

Gillmor, D. (1994, June). A journalist's view of the internet. <u>Internet World</u>, pp. 31-33.

Grant, A.E. & Van Tassel, J. (1995). Communication technology at BEA member schools. <u>Feedback</u>, <u>36</u>, (2), 7-9.

Grice, R.A. (1995). Focus on usability. <u>Technical Communication</u>, <u>42</u>, (1), 131-133.

Harp, D.A. & Fryman, J.E. (1994). The future of video curricula beyond traditional broadcasting. <u>Journalism Educator</u>, <u>49</u>, (1), 4-13.

Harrison, S.L. (1989). Public relations writing needs multi-media approach. <u>Journalism Educator</u>, <u>44</u>, (3), 41-44.

Holland, S.D. & Hudson, T.J. (1992). Interactive multimedia instruction in video production classes. <u>Journalism Educator</u>, <u>47</u>, (3), 18-26.

Kamalipour, Y.R. & Robinson, W.L. (1991). Broadcast education in the United States The most recent national survey. <u>Feedback</u>, <u>32</u>, (2), 2-5.

Kantrowitz, B. & Ramo, J.C. (1993). An interactive life. <u>Time</u>, <u>121</u>, (22), 42-44.

Koch, T. (1991). <u>Journalism for the twenty-first century</u>. New York, Westport, Connecticut, London: Greenwood Press.

Lieb, T. (1990). Computer conferencing offers new way to think about writing. Journalism Educator, 45, (2), 32-37.

Long, B. (1994, November 22). KBYUniverse offers on-line news. The Daily Universe, p.1.

McAdams, K.C. & Bucy, E.P. (1994). When faculty members learn what students already know. Journalism Educator, 49, (2), 77-82.

McCandless, G. (1996, February). Networked multimedia: Not quite ready for prime time. Syllabus, pp. 33-35.

Mencher, M. (1994). Reconstructing the curriculum for service to the nation. Journalism Educator, 49, (2), 71-76.

Nielsen, J. (1990). Hypertext and hypermedia. Boston, San Diego, New York, London, Sydney, Tokyo, Toronto: Academic Press, Inc.

Oppenheimer, T. (1993, November/December). Exploring the interactive future Newsweek's voyage through cyberspace. Columbia Journalism Review, 32, 34-37.

Resnick, R. (1994, July/August). Newspapers on the net. Internet World, pp. 68-73.

Zoglin, R. (1993). When the revolution comes what will happen to... Time, 141, (15), 56-58.

APPENDICES

Appendix A. The survey

January 2, 1996

Dear BEA Institutional Member,

At last spring's convention, the Broadcast Education Association formed a task force to determine how (or if) BEA member institutions are addressing multimedia education in their programs. The "Multimedia Task Force" was formed to do research and then make recommendations to the Association as to how multimedia should be incorporated in BEA. This survey is part of the process.

Please take a few minutes to fill out this survey and return it in the enclosed self-addressed, stamped envelope. We appreciate your cooperation and swift reply. The results of this survey will be presented at the BEA annual convention in Las Vegas this coming April.

Any questions about the survey can be directed to Michelle Hales (slb3g@cc.usu.edu) or Steve Anderson (sanderso@cc.usu.edu).

Multimedia Survey

For the purposes of this survey, use the definition below:

- **Multimedia**: a computer-aided combination of text, graphics, sounds, and still or motion pictures to convey training, information or entertainment.

==

SECTION 1: Please provide the information below about your title and department.

1. What is your title?_____

2. Department Name:_____

3. Does your department incorporate the teaching of multimedia creation in the curriculum?
(Either in departmental classes or classes from another department)
____Yes
____No

    If yes, continue on to the next section (question #4)
    If no, please go on to SECTION 3 (question #11)

==

SECTION 2: We are interested in getting information about how you incorporate multimedia in your curriculum.

4. Please indicate the application of multimedia currently being used: (check all that apply)
    __ Authoring Software (i.e. Authorware, Macromedia Director, etc.)
    __ HTML (hypertext markup language for World Wide Web Pages)
    __ Image Creation/Editing Software (i.e. Photoshop, Illustrator)
    __ Video Editing Software (i.e. Adobe Premiere...Intended as desktop clips).
    __ Desktop Video/Non-Linear Editing System (i.e. Avid, Matrox, Media
       100...Intended for output to tape or broadcast as full-screen, full-motion video).
    __ Other (please specify)_____

5. Which classes use these materials? (Please list class name)

CHECK IF
CLASS NAME(S)   DEPARTMENT   REQUIRED

Authoring Software: _____   _____   _____
                        _____   _____   _____
HTML   _____   _____   _____
                        _____   _____   _____
Image Creation/Editing Software_____   _____   _____
                        _____   _____   _____
Video Editing Software _____   _____   _____
                        _____   _____   _____
Desktop Video/Non-Linear _____   _____   _____
                        _____   _____   _____
Other (please specify) _____   _____   _____
                        _____   _____   _____

   * As part of this section, we are also interested in finding out whether departments are using multimedia classes to teach multimedia creation, or simply incorporating multimedia creation in traditional classes (such as Television Production, Audio Production classes).

6. Which of the above classes (in question #5) are specifically multimedia classes?

_____
_____
_____
_____
_____
_____

7. Which of the classes (in question #5) are traditional classes?

_____
_____
_____
_____
_____
_____

8. Would you say these multimedia classes are more "skills" or "theoretically" oriented?
   (Check one)
   ___ Skills
   ___ Theoretical
   ___ Equally Skills and Theoretical

9. Do you offer a degree in multimedia?
   __Yes
   __No

   9a. If yes, when was the degree first offered?_____
   9b. Is this a(n) undergraduate or graduate degree?
      (Check all that apply)
      ___ Undergraduate
      ___ Graduate

10. Would you say that student response to multimedia classes has been:
    ____ Very favorable
    ____ Favorable
    ____ Neither Favorable nor Unfavorable
    ____ Unfavorable
    ____ Very Unfavorable

===
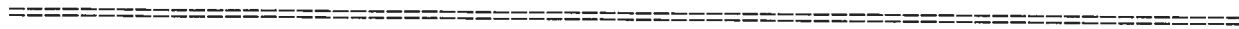
SECTION 3: This section is intended to find out about future plans for multimedia in departmental curricula.

11. Please rate each of the following categories as to their importance (or lack of importance) to the broadcast /media curriculum in general (use the definitions below).
(1=very important, 2=important, 3=no opinion, 4=not very important, 5=not at all important)

   __ Presentation Multimedia (i.e. computer-based multimedia material for a linear
         presentation -- non-interactive)
   __ Packaged Multimedia (i.e. creation of interactive CD-ROM or CD-I
   __ Kiosk Multimedia (i.e. interactive programs housed in desktop systems, or
         self-contained units such as those found in malls, offices, travel agencies,
         student unions, etc.)
   __ Networked Multimedia (i.e. the World Wide Web or truly interactive
         cable/TV services.
   __ Desktop Video/Audio (Non-Linear Editing) (i.e. the use of
         computers for video/audio production -- editing of digital audio & video).

12. Are you aware of other departments at your institution that teach multimedia design?
___Yes
___No

    12a. If yes, which departments?

    _____

    _____

13. Should multimedia creation be incorporated in the broadcast/media curriculum?
__Yes
__No

14. Should new courses specifically dealing with multimedia creation be offered?
__Yes
__No

    14a. If yes, should the class(es) be required?
        __Yes
        __No

15. Should multimedia creation be incorporated into traditional courses? (such as TV Production and Audio Production)
__Yes
__No

    15a. If yes, should the class(es) be required?
        __Yes
        __No

16. Should multimedia classes be more "skills" oriented or more "theoretically" oriented?
(Check one)
___ Skills
___ Theoretical
___ Both Skills and Theoretical

17. Do you anticipate incorporating multimedia creation into your future curriculum?
__Yes
__No

18. Do you plan to offer a major or emphasis area in multimedia?
__Yes
__ No

19. Do you currently have an active search underway for someone to teach multimedia?
__Yes
__No

      19a. If no, do you expect your next search to include someone who can teach multimedia?
          __Yes
          __No

20. Do you anticipate hiring faculty to teach in the area of multimedia in the near future?
__Yes
__No

21. What would you say is the biggest challenge for BEA member schools where multimedia instruction is a goal? (Check one)

_____ finding qualified instructors
_____ equipment/facilities
_____ faculty development & support (staying up-to-date)
_____ lack of standardization in software, hardware, and techniques
_____ Other: _____

22. Do you or other members of your department belong to any multimedia associations such as the "Interactive Multimedia Association," "National Multimedia Association of America" or others?
__Yes
__No

    22a. If yes, name the organization(s).

    _____

    _____

23. Is there a need for a BEA "Multimedia Division" in addition to the Communication Technology, and Production divisions?
__Yes
__No

    23a. If yes, what should the division consist of?

_____

_____

_____

_____

_____

23b. If no, how should BEA incorporate multimedia into existing divisions?

_____

_____

_____

_____

_____

24. Should BEA adopt "multimedia" as a convention theme in the near future?
 __Yes
 __No

25. Use the space below to describe how your department plans to integrate multimedia (if you plan to integrate multimedia) or provide any other information you feel may be helpful.

_____

_____

_____

_____

_____

Thanks you for filling out our survey.

We are also interested in receiving any multimedia course syllabi available. Please feel free to mail us syllabi as well.

Return the survey in the self-addressed, stamped envelope or mail to:
Steve Anderson
Dept. of Communication
Utah State University
Logan, UT 84322-4605

Appendix B. Survey results

MULTIMEDIA SURVEY RESULTS

Survey Population: 250
Survey Response: 88
Response Rate: 35.2%

NR=no response

SECTION ONE

1. What is your title?

Professor 43.2%
Head/Chair 28.4%
Director 14.8%
Other 13.6%

2. Department Name?

Communication 48.9%
Broadcasting 19.3%
Journalism/Mass Comm. . . . 11.7%
Other 20.1%

3. Does your department incorporate the teaching of multimedia creation in the curriculum? (Either in departmental classes or classes from another department)

Yes 62.5%
No 37.5%

SECTION TWO

4. Please indicate the application of multimedia currently being used: (check all that apply)

Authoring Software	36.4%
HTML	38.6%
Image Creation/Editing Software	44.6%
Video Editing Software	37.5%
Desktop Video/Non-Linear Editing	45.5%
Other	14.8%

Are the multimedia classes incorporating these applications taught in or out of the department? Are they required? Do you consider these classes multimedia or traditional?

PERCENT

	In Dept. or Out?				Required?			Multimedia/Trad?			
	In	Out	Both	NR	Yes	No	NR	MM	Trad.	Both	NR
Author	87.5	6.3	6.3	0.0	37.5	62.5	0.0	78.1	12.5	3.1	3.2
HTML	79.4	8.8	2.9	8.8	29.5	64.7	8.8	41.2	38.2	8.8	11.8
Image	75.6	9.8	4.9	9.8	31.7	58.5	9.8	39.0	43.9	0.0	17.1
Video	90.9	6.1	6.1	0.0	45.5	57.6	0.0	24.2	75.8	3.0	0.0
Desktop	95.0	2.5	5.0	0.0	50.0	50.0	0.0	17.5	85.0	0.0	0.0

8. Would you say these multimedia classes are more "skills" or "theoretically" oriented?

Skills 45.5%
Theoretical 1.8%
Equally skills and theoretical . . . 49.1%
NR 3.6%

9. Do you offer a degree in multimedia?

Yes 7.4%
No 92.6%

9a. If yes, when was the degree first offered?

1990 . . . . 1 response
1993 . . . . 1 response
1996 . . . . 2 responses (one expected fall '96)

9b. Is this a(n) undergraduate or graduate degree?

Undergraduate . . . . 2 responses
Graduate . . . . 0 responses
Both . . . . 1 response

10. Would you say that student response to multimedia classes has been:

Very favorable 47.2%
Favorable 39.6%
Neither favorable nor unfavorable . . . 11.3%
Unfavorable 0.0%
Very unfavorable 1.9%

SECTION THREE

11. Please rate each of the following categories as to their importance (or lack of importance) to the broadcast/media curriculum in general.

(1=very important, 2=important, 3=no opinion, 4=not very important, 5=not at all important)

PERCENT

	1	2	3	4	5	NR
Presentation multimedia	18.2	46.6	14.8	10.2	3.4	6.8
Packaged multimedia	21.6	40.9	13.6	10.2	5.7	8.0
Kiosk multimedia	5.7	26.1	25.0	22.7	10.2	10.2
Networked multimedia	35.2	43.2	8.0	3.4	2.3	8.0
Desktop Video/Audio (Non-linear)	73.9	13.6	1.1	2.3	2.3	6.8

12. Are you aware of other departments at your institution that teach multimedia design?

Yes 51.1%
No 45.5%
NR 3.4%

12a. If yes, which departments?

Art 24.5%
Instructional design/Ed. 20.0%
Art/computer science 17.8%
3 or more depts. listed 15.6%
Other 22.1%

13. Should multimedia creation be incorporated in the broadcast/media curriculum?

Yes 90.9%
No 3.4%
NR 5.7%

14. Should new courses specifically dealing with multimedia creation be offered?

Yes 79.6%
No 15.9%
NR 4.6%

14a. If yes, should the class(es) be required?

Yes 34.8%
No 58.0%
NR 7.2%

15. Should multimedia creation be incorporated into traditional courses? (Such as TV production and Audio production)

Yes 77.3%
No 19.3%
NR 3.4%

15a. If yes, should the class(es) be required?

Yes 64.7%
No 26.5%
NR 8.8%

16. Should multimedia classes be more "skills" oriented or more "theoretically" oriented?

```
Skills . . . . . . . . . . . . . . . . . . . . 18.2%
Theory . . . . . . . . . . . . . . . . . . . . 0.0%
Both . . . . . . . . . . . . . . . . . . . . . 77.3%
NR . . . . . . . . . . . . . . . . . . . . . . 4.6%
```

17. Do you anticipate incorporating multimedia into your future curriculum?

```
Yes . . . . . . . . . . . . . . . . . . . . . 90.9%
No . . . . . . . . . . . . . . . . . . . . . . 4.6%
NR . . . . . . . . . . . . . . . . . . . . . . 4.6%
```

18. Do you plan to offer a major emphasis area in multimedia?

```
Yes . . . . . . . . . . . . . . . . . . . . . 22.7%
No . . . . . . . . . . . . . . . . . . . . . . 70.5%
NR . . . . . . . . . . . . . . . . . . . . . . 6.8%
```

19. Do you <u>currently</u> have an active search underway for someone to teach multimedia?

```
Yes . . . . . . . . . . . . . . . . . . . . . 9.2%
No . . . . . . . . . . . . . . . . . . . . . . 87.5%
NR . . . . . . . . . . . . . . . . . . . . . . 3.4%
```

19a. If no, do you expect your next search to include someone who can teach multimedia?

```
Yes . . . . . . . . . . . . . . . . . . . . . 36.8%
No . . . . . . . . . . . . . . . . . . . . . . 56.6%
NR . . . . . . . . . . . . . . . . . . . . . . 6.6%
```

20. Do you <u>anticipate</u> hiring faculty to teach in the area of multimedia in the near future?

Yes 30.7%
No 63.6%
NR 5.7%

21. What would you say is the biggest challenge for BEA member schools where multimedia instruction is a goal?

Finding qualified instructors 10.2%

Equipment/facilities 45.5%

Faculty development & support (staying up-to-date) 36.4%

Lack of standardization in software, hardware, and techniques . . . 8.0%

Other:

Money . . . . 3 responses
Administrative commitment . . . . 2 responses
Curriculum . . . . 1 response
Vision . . . . 1 response
Time . . . . 1 response
All of the above . . . . 1 response

22. Do you or other members of your department belong to any multimedia associations such as the "Interactive Multimedia Association," "National Multimedia Association of America" or others?

Yes 12.5%
No 84.1%
NR 3.4%

22a. If yes, name the organizations.

Interactive Multimedia Association . . . . 3 responses
Association for Multi-Image, Inc. . . . . 1 response
IICG . . . . 1 response
SIGRAPH . . . . 1 response
Society for Applied Learning Technology . . . . . 1 response
Louisiana Mulitmedia Consortium . . . . 1 response
AACE . . . . 1 response
AECT & ASCD . . . . 1 response
3 of the above . . . . 1 response

23. Is there a need for a BEA "Multimedia Division" in addition to the Communication Technology and Production divisions?

Yes 37.5%
No 52.3%
NR 10.2%

23a. If yes, what should the division consist of?
23b. If no, how should BEA incorporate multimedia into existing divisions?

See Appendix D

24. Should BEA adopt "multimedia" as a convention theme in the near future?

Yes 67.1%
No 21.6%
NR 11.4%

25. Use the space below to describe how your department plans to integrate multimedia (if they plan to integrate multimedia) or provide any other information you feel may be helpful.

See Appendix D

Appendix C. Answers to questions 23a, 23b, and 25

Question 23: Is there a need for a BEA "Multimedia Division" in addition to the Communication Technology, and Production divisions?

*Disclaimer: Most of the answers to these questions were handwritten. In cases of bad handwriting I have made an educated guess as to what was written. Each of those cases is marked with a star (*).

Answers to Question 23a: If yes, what should the [BEA] division consist of?

--Should have content/system orientation more than technology. Emphasize message construction resource balance.

--Multimedia production and uses; Internet information

--Authoring support; Interactive/WEB support; Networking

--Internet, CD-Rom, CU-SeeMe, Audio Video Desktop

--Multimedia trends in broadcast/cable; designing programs/authoring; non-linear applications

--A combination of production/multimedia people - I've found the multimedia people are typically outgrowth of production people

--Web Site Maintenance; cooperative production of CD ROM/CD-I; publication on latest available products; clearinghouse for shared curriculum ideas; job placement help

--Means of keeping faculty current, information resource

--All of the issues you discussed above

--Web Authoring (HTML), Interactive video

--I don't understand your question

--Communication opportunity for faculty who work in this discipline

--The evolution of multimedia

Answers to Question 23b: If no, how should BEA incorporate multimedia into existing divisions?

--Multimedia is a tool in all disciplines including history management, production, etc. Encourage "alternative" publishing in traditional disciplines. Academe is often the slowest to change, even though we theoretically embrace it.

--Multimedia appears to be interdivisional in nature

--All divisions relate to production and theory of multimedia. Do we need separate divisions for radio, local television, network television. Focus on the PROCESS!

--Even with a division other divisions should not exclude the notion of multiple media telling same message.

--Production audio and video

--In discussions, practice and research

--In curriculum

--Teach the technology and show how it complements existing A/V production as done in traditional courses.

--Through normal panel and division project development

--Communicate and sell the idea that multimedia is a necessary part of all divisions although is should be unique in need to each.

--Continue to place emphasis on it. As it evolves it is really an incorporation or evolution of technologies and production.

--It will be a part of existing divisions. Multimedia is a "means" not an "end."

--For now, in conventional divisions

--Eventually all divisions will be dealing w/interactive multimedia in the same way they now deal w/"broadcasting"

--It should be up to those closes to the material to provide leadership

--The way we incorporate other technologies into the areas. MM is just another tool, like non-linear editors or video cameras. I think there are MM issues that can be addressed by many of the divisions, within the context of their subject area.

--Should fit nicely in communication technology

--Into *Prod and Tech areas

--Panel presentations and papers within existing divisions to keep us up-to-date

--Production

--Where appropriate. e.g. Editing into Television, Digital Video

--Name/arrea/title change and incorporate old

--In production

--It is or will be part of all production related divisions as well as any dealing in *instruction

--Under technology and production division

--It seems to warrant inclusion under production or technology division

--Technology should be integrated into all of them

Answers to Question 25: Use the space below to describe how your department plans to integrate multimedia (if you plan to integrate multimedia) or provide any other information you feel may be helpful.

--All departments in the school of Liberal Arts are working together with computer science to create an interdisciplinary multimedia studies program

--Right now technology is driving change across all traditional communications disciplines. We are integrating multimedia throughout our curriculum and pushing the envelope in this area

--Our video faculty member and director of media services have "multimedia" expertise. We have always taught production as a field unto itself not as just a broadcast field.

--Our main concern is communication. New technology is simply another tool. Place it in context with current research.

--As an institution we are slowly implementing multimedia into our programs. The Interactive Multimedia program uses and develops multimedia. We are continuing our development of multimedia products and are looking for partners.

--The university offers HTML authoring training for faculty and staff to design their own web pages. Our graduate assistant has taken the course and has assigned a TV web page for the University Homepage.

--Integrate it in many of our hands-on lab course and use it as a teaching tool.

--We will be using computers to access the Internet for information retrieval. Our newspaper has a home page on the WWW. Our TV station will use computer editors, if money becomes available, within five years. Most of our funds are used for maintenance or replacement of existing equipment.

--We have no plans at this time except to talk about it in classes in theoretical terms.

--A class in "interactive multimedia" (the title) is offered as an elective across the different sub-areas of the department (advertising, PR, journalism, photo, TV-Film).

--We are planning to use digital equipment in the TV classes as soon as we can afford the equipment. And we plan to add similar features to advertising and journalism.

--Two levels, design and development, trends in corp. media

--We plan to add MM as an option in production as the resources become available. Right now we have networked MM stations w/Netscape, but will add scanners, video capture cards, authoring software, etc. and offer the courses as a production elective in the major.

--Our multimedia major grew out of an emphasis in training applications in video production. We began developing some course material for interactive video (IVD) and then we moved to multimedia as that area developed beginning in 1990. We already were offering some clinics and special studies in computer-based media that grew into our multimedia technologies major.

--The department's only multimedia course is temporary/experimental. A new masters degree program has been approved and starts probably by Fall '97. At undergraduate level we are about to propose a MM minor for Radio TV, journalism and Cinema and photography departments.

--We shortly will offer our second multimedia course, and after that plan to create a sequence in "digital communications."

--Currently teaching a specific course and have multimedia integrated into several other courses.

--We just completed a new, fully interactive pentium-based computer classroom. *2S student postitions all with CD-ROM, sound and full motion video boards, etc. It is generating tremendous institutional interest throughout the campus.

--Texas A&M Journalism began teaching multimedia Spring '95. Emphasis is on need for P/R people to create MM (multimedia) Kiosks that include animation, still photo, graphics, animation, sound all with interactivity (by user) -- production is done with Macromedia Director. Students also do Web page(s) and a "presentation" (PowerePoint).

--I am currently updating our computer equipment to create author, etc. CD-ROMs created by students. We are developing a course next year which is exclusively multi-media our future plans are to offer a minor and eventually a major in multimedia.

--Continue w/IAM design course gradually convert traditional production courses to deal w/interactive multimedia issues and techniques.

--We are currently offering an AS in multimedia that integrates the Video Production curriculum, photography curriculum, Visual Communication curriculum and the Broadcast Audio aspects.

--We are constantly discussing, prodding, questioning and wondering what a model should be, but I'm satisfied that the unfolding is a process and not an end in itself. My crystal ball is cloudy and I cannot predict degrees of technological change. It's important to implement multimedia as a tool keeping in mind that all editing occurs between the ears. Teach basic skills.

--It will be gradual and tied to our corporate communications curriculum efforts.

--We will integrate multimedia into existing areas

--Current problem is funding. We have trouble maintaining existing facilities and have been unable to obtain funds to purchase a non-linear editing system, though we have requested (and pleaded) for such equipment for over two years.

--1. Use multimedia in basic production courses. 2. Design of multimedia in advanced production courses.

--Multimedia and the Web are the communications industry audio, video and film are suppliments to this industry. We either teach and be a part or become insignificant in our approach.

--We are attempting to purchase more non-linear editors and icorporate Adobe *??* etc. into our productions i.e. corporate video.

--The creation of/integrating of computer imaging production film and message design into a new dept.

--As tools in all classes within the total dept. and as basic tools for the future professional.

--We are working with other colleges to offer interdisciplinary majors and to work on project teams.

--Slowly beyond non-linear editing we hope to have a fully computerized lab to give all lessons interactively or via CD-ROMs.

--Already using PowerPaint and sound edit in our production courses. Hyperstudio is the production tool for our training course. Hope to get into non-linear editing.

--We may eventually go multimedia to a greater extent than traditional broadcast courses.

--Cost is a big factor. Also a demand for graduates with these skills.

--We are in the preliminary stage at assessing other universities programs and course offerings in multimedia.

--We've been very lucky in always having to scratch for resources and various multimedia combinations have come naturally to us. Having a computer and authoring programs to coordinate all our rag-tag systems makes it easier -- not more difficult.

--We expect to add a multimedia production course in 1997

Appendix D. Hudson's pilot study

From: IN%"sanderso@cc.usu.edu" 27-OCT-1995 11:43:25.31
To: IN%"slb3g@cc.usu.edu"
CC:
Subj: multimedia task force

Return-path: <sanderso@cc.usu.edu>
Received: from [129.123.40.16] (sanderson.ansci.usu.edu)
 by cc.usu.edu (PMDF V4.3-10 #7446) id <01HWXLUJ48PSHVTQ2R@cc.usu.edu>; Fri,
 27 Oct 1995 11:26:24 -0600 (MDT)
Date: Fri, 27 Oct 1995 11:26:36 -0600
From: sanderso@cc.usu.edu (Steve Anderson)
Subject: multimedia task force
To: slb3g@cc.usu.edu
Message-id: <01HWXLUJN9FMHVTQ2R@cc.usu.edu>
MIME-version: 1.0
Content-type: text/plain; charset="us-ascii"
Content-transfer-encoding: 7BIT

>Date: Tue, 24 Oct 1995 23:47:23 -0600 (MDT)
>Date-warning: Date header was inserted by cc.usu.edu
>From: sanderso@cc.usu.edu (Steve Anderson)
>Subject: multimedia task force
>X-Sender: sanderso@cc.usu.edu
>To: sanderso@cc.usu.edu
>MIME-version: 1.0
>X-Mailer: Windows Eudora Version 1.4.3
>
>>Return-path: <tjhudson@aardvark.ucs.uoknor.edu>
>>Date: Mon, 25 Sep 1995 16:53:07 -0500
>>From: tjhudson@aardvark.ucs.uoknor.edu (Tim Hudson)
>>Subject: multimedia task force
>>X-Sender: tjhudson@aardvark.ucs.uoknor.edu (Unverified)
>>To: sanderso@cc.usu.edu, bjoe@malone.malone.edu, DByland@aol.com,
>> cgesell@UTM.Edu, rgreene@utm.edu, jlong@oavax.csuchico.edu, mmurrie@siu.edu,
>> dw8021r@acad.drake.edu, TJHUDSON@aardvark.ucs.uoknor.edu
>>
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>>
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>>Michael Murrie, SIU   mmurrie@siu.edu
>>David Wright, Drake   dw8021r@acad.drake.edu
>>Thomas L. Yancy, Morehead State t.yancy@msuacad.morehead-st.edu
>>
>>Hello Multimedia Task Force Members: Here are the slightly edited answers
>>to my little internet survey. Look them over. I'll be in touch very soon
>>with some ideas & questions about where we go from here.
>>
>>
>><What do we mean by "multimedia?">
>>
>><Presentation Multimedia Design
>>Interactive Multimedia Design
>>Packaged Multimedia Design & Distribution
>>Distributed and/or Networked Multimedia
>>Digital/Desktop Audio and Video Production & Postproduction>
>>
>>--The categories are a helpful point for this discussion. I would not
>>like us to exclude categories at all. It seems that once we start to
>>exclude material, we soon thereafter generate another task force to look at
>>incorporating what had been excluded earlier. Certainly "presentation"
>>multimedia forms are germane to the tradition of "broadcasting" (i.e.
>>one-way communication). As well, "Digital/Desktop Audio and Video
>>Production & Postproduction" are a good fit with our production emphasis.
>>
>>--I like your topics and think we ought to encourage various division
>>members to propose panels on several of these subjects.
>>
>>--Why the term, "multimedia"? We could just as easily call
>>the newer capabilities "media used in combination", or "converged media
>>used interactively". The reason for the current label is related to
>>marketing, not the logic of descriptions.
>>Interactive multimedia is not new and is more the same than it is different.
>> However, there are differences. Those differences, if they are to exist,
>>will occur more in us than they will in the technologies. We DO need to
>>think about the media differently! Our limitations now are caused more by
>>how we were taught and our own, limited, imaginations than by the
>>capabilities of technologies. This is the real difference in creating and
>>using interactive multimedia. The differences are more conceptual than
>>they are skills based. The differences should be seen as threads
>>running through the whole rather than a new medium requiring many
>>new courses and substantial retraining.
>>

>>
>><Which areas are appropriate for the broadcast or media curriculum?>
>>
>>--I believe we've always been "multimedia" (i.e. audio/video/performance
>>etc.). And, even these other categories represent what broadcasting is
>>hoping to become (i.e. using an additional channel for a range of services).
>>Already, some television stations are developing web pages and other
>>multimedia presentations.
>>
>>--Obviously, the size, resources and mission of a program will factor
>>into this. However, all of the areas listed are appropriate for broadcast
>>and media programs.
>> "Presentation multimedia" may be the least important form of multi-media
>>for electronic media education, but the most important for other
>>disciplines, and therefore especially important for departments which offer
>>university-wide service courses. It is also a very good introduction to
>>non-linear storytelling, and digital media production.
>> "Interactive Multimedia Design"
>>   Now, here is the heart of the matter: combine this with digital
>>desktop media.
>> "Digital/Desktop Audio and Video Production & Postproduction"
>>   Clearly, since producers are pushing the development of these
>>tools, educators should be teaching how to use them. I fear that too many
>>of our programs will become dinosaurs, relics of that earlier age of
>>electronic media known as "broadcasting", if we don't agressively pursue
>>digital media production. Graduates of our programs must have digital media
>>production experience to be competitive in today's job market, and will
>>soon be unemployable without it. Since digital media production is an
>>integral component of multi-media production, if we offer any multi-media
>>courses, we should also offer digital media production courses.
>> "Distributed and/or Networked Multimedia"
>>   The mystic in me compels me to suggest that this is the future. .
>>.VERY IMPORTANT.
>> "Packaged Multimedia Design & Distribution"
>>   These are the present methods of distribution, so are critical for our
>>students to understand. These should be incorporated into advanced IMM
>>production courses.
>>
>>
>><What should the courses include?>
>>
>>--It may be adviseable to combine some packaged design and distribution
>>with advanced production courses.

>>

>>--I personally believe that few new courses are required for our students
>>to understand how theory and skills can be related to IMM. Much of that
>>should be done within our present coursework. This can be
>>accomplished by using the technology (CD-ROM, CAI, CMI, IVD) to teach
>>the technology, and by pointing out examples (good & bad) of IMM
>>products, design strategies, etc..
>>Additional courses might include a course in 'Media Message Design', but
>>such a class would not focus on interactive or multimedia products,
>>alone. A class in graphic design/computer imaging-animation (probably
>>offered in the design/art department) is also needed. A class in
>>assessing media products is required at the senior/undergrad-graduate
>>level. Tools classes, (or labs associated with classes) are
>>needed to help students know how to use authoring, presentational,
>>HTML, and digital editing (both audio and video) software. Of course, the
>>problems with adding courses are tied to the AEJMC accreditation
>>standards that require a liberal arts preparation, almost exclusive of
>>anything else.
>>
>>
>><Should our curricula include hands-on multimedia instruction in required
>>or elective courses? How many? Which more traditional courses might they
>>complement or even supplant?>
>>
>> --Of course there is no one answer for all programs. Journalism programs
>>will vary from Communication Studies programs etc.
>>   I believe at least one class in multimedia should now be required in many
>>programs. But, then that's my parental attitude saying students ought to
>>know this stuff. (They want to learn this anyway).
>>I believe we ought to abandon the notion of beginning and advanced
>>television production classes which cover the same material, but with
>>different levels of complexity. Especially, when much of the emphasis is on
>>traditional studio production. "Live" commercial assignments and an
>>emphasis on "directing" are seldom as useful to our graduates as they were
>>many years ago. I still see value in these elements, but not in a two
>>course sequence. Separate classes covering lighting, directing, announcing
>>etc. should also be considered for change. Better would be a beginning
>>level class on "developing effective messages" and "critical thinking."
>>Then, we could branch out into studio/field production and multimedia
>>applications of these messages.
>>
>> --Multi-media production and distribution courses should become
>>required courses in programs that have the resourses, and elective courses

>>in other programs. I don't believe it will be too long before digital
>>production, and multi-media production/distribution will replace
>>traditional production and distribution entirely, so our programs must
>>respond to these developments.
>>
>>--In my opinion, experience is the only certified teacher. The rest of us,
>>masquerading as instructors, are poor substitutes that ought to do all we
>>can to provide the most helpful experiences for our students. Yes, we
>>should have hands-on courses or labs, but we cannot ignore the
>>conceptualization, design and strategy ideas or theories, either. Again,
>>some accreditation requirements may block our requiring such work.
>>
>> --regarding the hands-on instruction...I firmly believe in it as long as it
>>complements current courses. There is room for some m/m instruction in
>>some of the courses we currently teach, but I do not think we should
>>consider
>>supplanting "traditional"courses yet. as long as we offer broadcasting or
>>journalism degrees we need to consider broad-based instruction as central to
>>the student experience. I do believe, however, that we need to examine
>>offering degrees in m/m. This could be the preferred degree of the future.
>>
>>
>><Is there a need for a BEA "multimedia division" in addition to the
>>communication technology, and production divisions?>
>>
>> --I'm still thinking about this one.
>>
>>-- I am opposed to launching yet another interest division, since this new
>>tool is just that.. a tool, of use by many areas of production,
>>development and
>>interests. I say let's keep the topic alive from various viewpoints and
>>see how the members treat these issues.
>>
>>-- Not yet.
>>
>>-- Yes. While new tech does cross over into this area, they need to be
>>looking at too many other things to do m/m justice. A division would allow
>>us to focus on m/m and work at getting those of us involved with it up to
>>speed by offering workshops and seminars and web sites and...well, you get
>>the idea.
>>
>>--No. I believe we need a multimedia mentality in the production and
>>curriculum divisions in BEA. We have only recently begun to discuss the

>>interactive media issues that have been around for almost two decades.
>>We should have panels at conferences and other dissemination vehicles
>>(like this discussions and pages on the WWW) that treat: Research
>>results from using IMM; IMM products for teaching X (video production,
>>message design, etc.); How you create an interactive script, etc.
>>
>>--I certainly would not oppose a new division for multimedia in BEA, but I
>>tend
>>to agree that we should incorporate interactivity and "multimedia" in
>>existing divisions.
>>   In the late '70s we might have had the question of splitting off those
>>of us who are interested in field production from the studio folks. I don't
>>think multimedia is a separate topic from production, I think it opens up an
>>unlimited number of amazing pathways for us to pursue in our teaching and
>>creative work. We still think about "producing" messages and constantly look
>>for new tools, techniques and content to utilize.
>>
>>
>><Of course there are many concerns beyond production. We have many new
>>legal and ethical questions. >
>>
>>-- These will become quite significant as IMM moves out of the wild west,
>>into civilized society.
>>
>>
>><Perhaps the BEA should adopt "Multimedia" as the theme for the '97
>conference.>
>>
>> --I really like that idea.
>>
>> --Good idea. The Task Force should convene a panel to address these
>>subjects for BEA '96? It might be frutiful, and could be quite provocative
>>for the entire
>>organization to reflect upon.
>>
>>
>>
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