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Technically dramatic

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TECHNICALLY DRAMATIC

A Thesis

Presented to

The Faculty of the Department of Theatre Arts

San Jose State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

by

Laura Elizabeth DeKraker Lang-Ree

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ABSTRACT
TECHNICALLY DRAMATIC

by Laura Lang-Ree

This thesis addresses the topic of technology use in the theatre arts classroom. The popularity and prevalent use of the personal computer, CD-ROM and multi-media in classrooms implies a promise that technology is a valuable and viable educational tool. However, assessing the usefulness of a particular piece of technology, be it the computer in general or a piece of software, is difficult as each teacher and each classroom has a different set of needs and requirements.

In an effort to create a means of evaluating the usefulness of technology in the theatre arts classroom, this thesis focuses on the creation of an assessment document, developed from existing educational mandates for theatre arts educators - specifically, National Association for Schools of Theatre and National Standards for Arts Education. The evaluation of technology against the assessment document brings focus to the pertinence of technology as an aid for enhancing theatre arts education and curriculum development.

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This thesis is dedicated to my first child Cecilia Pauline, now all of 19 months old, for joining her Mama on this thesis odyssey.

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Chapter 1: The State of Education and Technology

In Defense of the Question

During the last decade we have witnessed considerable acceleration in the creation and use of computer technology, confirming that "the new age of technology is already well launched, fueled by a long stream of techno-driven goods and services that are flooding the consumer marketplace to change the ways people live and work" (Wallis, 2). The personal computer has gained such popularity and importance in our culture that in 1995 alone, sales of personal computers virtually matched those of television sets. (Dickenson, 1). We use computers at work to create complex documents and interesting presentations. At home, on-line services allow us to arrange our travel plans and order groceries for delivery. And virtual reality "game rooms" let us escape our everyday lives. Our society, especially younger generations, are captivated by computer technology - and with good reason: its non-linear format invites flexibility and creativity; its products are interesting and fun, and colorful graphics make using the computer a form of entertainment.

Education is just beginning to discover the possibilities of utilizing digital technology,¹ personal computers and multimedia software, and platforms such as CD-ROM, in the classroom. However, "even now, computers, CD-ROMs, videodisks, camcorders, e-mail and on-line data bases -- when available -- tend to be add-ons to the traditional teacher-directed classroom. Technology has the potential to do much more" (Jacobs, 1). Many of the qualities inherent in digital technology - the non-linear format, flexibility and visual emphasis - are beneficial for the Theatre Arts educator who requires those same qualities in teaching materials.

¹ For purposes of this thesis, technology is defined as and limited to digital technology, via the personal computer, multimedia, software and CD ROM platforms.

The popularity and interest in the personal computer, CD-ROM and multimedia in classrooms implies a promise that technology is a valuable and viable educational tool. However, it is difficult to assess the usefulness of a particular piece of technology, be it the computer in general or a piece of software in particular, since each teacher and each classroom has a different set of needs and requirements. In an effort to create a means of evaluating the use of technology in the Theatre Arts classroom, this thesis will focus on the creation of an assessment document, developed, in part, from existing educational mandates for theatre arts educators. Can technology aid and enhance teachers' abilities to effectively convey subject matter and aid in development of theatre-oriented curricula to fulfill existing educational mandates?

The climate is right for examining this situation as a new set of requirements is implemented for theatre arts educators, K-12 (referred to in this document as NSAE, in reference to the National Standards for Arts Education), which asks Theatre Arts educators to be accountable for the curricula they teach. The NSAE document, subtitled "What Every Young American Should Know and Be Able to Do in the Arts," contains lists of desired skills and competencies in music, drama, dance and art. These standards do not attempt to discuss methodologies or resources necessary for achieving educational goals. Instead, they present the desired knowledge and abilities in the arts in general. However, in order to be accountable to the mandate, theatre arts educators will need to develop, or, at the very least, redesign existing curricula.

While the focus of attention in this thesis is on the K-12 educator, it is also relevant to discuss the effect of collegiate theatre arts guidelines on K-12 education. At the collegiate level, similar guidelines exist under the National Association of Schools of Theatre (NAST). These guidelines help to determine which tools from a K-12 education are necessary for the student continuing his or her theatre arts education in college.

Although they are an important part of a collegiate theatre arts program, NAST's educational guidelines are less requirements than recommendations, as their objective is "to organize ideas and encourage thought about the future, not to establish a national blueprint or action agenda" (NAST Executive Summary, 1). The NSAE requirements, coupled with existing collegiate NAST guidelines, provide the criterion for the creation of a single assessment document. This document will be used as a model for evaluating technology in the theatre arts classroom as a tool for aiding teachers in meeting the NSAE/NAST criteria.

The assessment document contained within this thesis provides the theatre arts educator with a vehicle for applying and utilizing the flexibility and creativity of technology in developing their new curricula, and provides a model for relevant product purchases and future product development. Additionally, theatre arts educators can use the findings in this thesis to experiment with reaching contemporary students via a medium that they already understand and enjoy.

This thesis limits the type of software and hardware reviewed in the following way:

- Product reviews are limited to current personal computer-based products.
- Product reviews are limited to consumer computer products and/or those developed or being developed by educators.
- Discussion of technology is based on current capabilities and those projected for the next five years.

The State of Education

In some ways, education in America is starting to be like the weather: everybody talks about it...and nobody seems to be in much of a position to do anything that changes it. Over the past ten years or so, we have seen report after report criticizing the American education system. There seems to be general agreement that educational excellence is both necessary and elusive. (Jennings. 1)

This excerpt from ABC News contextualizes the opinion that school systems and education in general is failing to reach contemporary students. Clearly, students are learning in different ways and the problem, or opportunity, is that teachers have not completely determined how to reach them:

We are rearing a generation of “different brains”. Many students’ faltering academic skills - at every socioeconomic level - reflect subtle but significant changes in their physical foundations for learning. These fundamental shifts put children in direct conflict with traditional academic standards and the methods by which they are usually conveyed (Healy, 45-46).

Much of the problem with the education system today stems from recent generations’ inability to learn the basics via traditional classroom methods. The basic structure of Traditional, or Classic teaching methods is rendered ineffective for today’s students by virtue of its format. For example, a typical Traditional lecture, which is still the method of choice in the majority of classrooms, might discuss a single-subject for upwards of an hour, utilize the chalkboard or overhead to emphasize and illustrate certain points, and often require detailed written responses from students (Lang-Ree, Healy). Already, this mode of teaching is problematic when the current statistics regarding retention are considered: we remember approximately 10% of what we read, 20% if we hear the same material, 30% if

the material has visuals and narration added, 50% if we watch someone else complete the material - and, interestingly, 90% if we do the job ourselves, even if it is simulated (“Reading, Writing and Multimedia”, B-14). Furthermore, Traditional teaching methods are in question as “children today - exposed to a world of stimulus and information their grandparents couldn’t have imagined during their childhoods - are more likely to rebel against the repetitive tasks and mindless copying that school work has traditionally included” (Perry, 48). The end result is that educating today’s students requires that classrooms “become more than museums of 19th-century artifacts. They have to acknowledge that unless students are plugged into the appropriate uses of technology, they will be unplugged from their future” (Barnett, 1).

Certainly, the student is also part of the problem in the teacher/student relationship. Dubbed the “MTV Generation,” children today are exposed to a rapid fire of visual information from programming and marketing. Researchers still struggle to compile all of the data and analysis in an effort to understand the impact television and computers - computer games specifically - have on children, and a few facts have surfaced. Although television and new media provide younger children with a lot of information or “factlets” which can result in higher IQ tests, most television, game playing and video watching causes many problems, including: overstimulation, attention and listening problems, decreased ability to exert mental effort, inability to focus on finding an answer to a problem, and the need for “special effects” to obtain and keep attention (Lang-Ree, Healy). Some television, i.e. MTV and advertisements, manipulate the brain into paying attention by utilizing sudden close-ups, pans, zooms. Additionally, television uses salient effects which manipulate arousal mechanisms and keep both children and adults watching, whether they want to or not (Healy). The result of all of this is a child who, when exposed to Traditional teaching methods, become passive, uninterested, and unimaginative.

Morgan Newman, co-founder and vice-president of AND Communications Inc., notes of his educational multimedia company:

We think that quite probably what's going on with the crisis in education out there is that kids are often just bored. They're going home in the afternoon and watching MTV, and then they go to school and the teacher says, 'Open the book to page 225,' and their eyes just glaze over. So we're embracing, instead of denouncing, the language that human beings in the 1990's want to hear to keep them engaged (Braun, 1).

Students "not paying attention" is often a major complaint for teachers. The concept of attention is critical to both the child and teacher as a teacher is unable to convey information if the child is not mentally present, and a child is unable to absorb information if he is not paying attention. Thus, attention is largely responsible for how and what an individual learns. Unfortunately, "the current generation of two-minute minds are unschooled in persistence or reflection; if they don't like something, they change the channel" (Healy, 298).

Technology in the Classroom

While the prospects for a substantial relationship between technology and education often look promising, this is not the first time that technology has been assigned to rescue education from an abyss, and previous attempts at a relationship have not always proved fruitful:

When computers were first introduced into the classroom in the 1970's, they were promised to revolutionize education. Instead, they gathered dust, with the computer manufacturers and the teachers not quite sure what to do with them. (Jennings, 2).

Since that time, both educators and developers have worked towards a mutual understanding of both the need and the opportunity for technology in the classroom. Even though the idea of using technology in the classroom is not new, the development and fascination with the latest technology remains in its infancy, enjoying a honeymoon period as society revels in the possibilities:

With a flick of a computer joystick, students of the near future will be able to climb around the crumbling ruins of a Mayan temple, turning left or right as the jungle path forks and conversing with an archaeologist, while never leaving their desks. Using an array of newly developed computer technology, the student could also explore the harmonies of a Beethoven symphony, study a detail of Michelangelo's "Pieta" or plunge into the structure of a Tennyson poem. The developers of such wizardry are quick to explain that these projects are not meant to replace conventional experiences like field trips, singing in a choir or writing poetry. Instead, they propose their programs as stimulating supplements for a generation of students accustomed to fast-paced music videos and Nintendo games" ("Tech Wizardry", SJM 1F).

For the theatre arts educator, the non-linear format, flexibility and visual emphasis of multimedia and CD-ROM specifically, are extremely useful in a classroom that focuses on performance, research, improvisation and personal investigation. For this reason, NAST and NSAE documents embrace, albeit cautiously, the investigation of a technology/theatre arts relationship.

Whether in the form of tools (machines) or technique (methodologies), technological innovations have enormous benefits. Applied to the theatre, technology offers exciting new possibilities for creation, performance, education, and administration. There is a dark side, however. Uncritical acceptance or

unwise use of technology and technique can be counterproductive, or even dangerous. Work with the arts disciplines also teaches that technique, though vitally important, is not enough. Clearly, the most basic question is the nature and purpose of the work we wish to do (NAST, ES 7, 49).

Potential possibilities with technology in the classroom are just that - potential. The reality today is that most classrooms are still mainly equipped for Traditional teaching, with perhaps a videotape machine and overhead projector. Even worse, although quite common, are facilities that have spent money on complex computer systems without adequately providing for teacher training and system implementation;

Although at least three-quarters of schools report having sufficient computers and televisions, they do not have the system or building infrastructure to fully use them. Moreover, because the computers and other equipment are often not networked or connected to any other computers or the outside world, they cannot access the information superhighway. In another report, the congressional Office of Technology Assessment said that while there is one computer for every nine pupils in US classrooms, students don't fully benefit from the equipment because their teachers lack technical training (Sullivan, Chervitz, A-1).

Industry insiders and educators, including leaders such as NAST, Computer Curriculum Corporation and NSAE, believe that a long-term relationship between technology and education is contingent upon the following events. First, in order for students to utilize technology, teachers, administrators and staff need to have a clear understanding of their objective for using technology and the means by which that objective can be met. This includes specific program training and familiarization with technology in general as, "a lot of teachers feel just a little bit threatened by this technology because they don't feel computer literate themselves" ("Tech Wizardry", SJM 1F), the role of the teacher in the

technological classroom needs definition if a long-term relationship is to be developed and maintained. Communication between developers and educators is vital for the relevant creation of software and programs, as a software program is only as good as the teacher who brings it to life in the classroom.

Schools historically have been poor adopters of technological innovation. One reason is that classrooms are social organisms. For now, personal computers are designed to be just that -- personal. They don't quite fit into the hurly-burly interactions of a class filled with 25 children of different talents and temperaments. Can computers be useful? Can they be helpful? Can they occasionally complement the work a good teacher is trying to do? Of course they can. The problem is that Nintendo Educators want to restructure the classroom around the technology instead (Schrage, 3).

And finally, technology needs to be applied where it is needed, and not for its own sake and posterity. Technology indeed offers many interesting possibilities and opportunities for some kinds of learning, however, "you cannot truly experience lush Faulknerian prose without reading it. P.G. Wodehouse is far more humorous on the page than on the screen. In the same way that descriptions of the virtual world pale in comparison to the actual experience, virtual worlds drawn from literature fail to measure up to their literary beauty in the mind's eye and ear" (Virtual Reality, 14).

Literature Review

A literature review on the subject of the relationship between technology and theatre arts education poses some difficulty as there is very little specific information available. While there is some information regarding the use of technology in the general classroom, there is no relevant discussion surrounding the needs, technological or otherwise, of the theatre arts classroom specifically. NAST and NSAE frequently mention the use of

technology, almost as a given, but offer no concrete advice for its implementation or guidelines for its use. What does exist is a fair amount of speculative material regarding the impact of technology (most often mentioned as television and computers), on developing minds, and a great deal of editorial writing on the pros and cons of using technology in the classroom.

Many in education, such as Dr. Jane M. Healy, spend a great deal of time focusing on the learning patterns of contemporary students who are extremely computer and television oriented and, consequently, highly visual. In her book, Endangered Minds, Healy advocates that the central problem with education exists in the dynamic between current students, no longer capable of learning via the traditional teaching methods, and teachers who still employ those methods. She sees a phenomenon occurring as children's free time is increasingly spent in front of the television or computer screen:

Frequent players have trouble readjusting from the microworld to that of a classroom, which offers much less sensory "saliency", not a whole lot of power, and less individual attention and gratification. Some of course suggest that what we really need to do is make school as personally rewarding as the games. Increasing numbers of children today show evidence of weakness in attention, language, and reasoning, yet teachers continue to assume the presence of these skills and tend to blame the students for their unwillingness to pay attention to the content and method for which their brains have been poorly adapted (Healy, 192, 207).

In the literature, concern for contemporary students is widespread, regardless of whether the use of technology is sanctioned or not. Most authors writing about technology and its relationship to education, including Healy and Jerry Mander, seem to believe that children are overexposed to television and computer media, and have lost their imagination

and ability to visualize as their pictures have been created for them by something or someone else. Jerry Mander, in his book Four Arguments for the Elimination of Television, which really speaks for the elimination of both television and computers, discusses this concern:

Knowledge results from personal experience and direct observation - seeing, hearing, touching, tasting and smelling. The senses developed in interaction with the multiple patterns and influences of the natural environment; no sensual capacity was developed by accident. No sense maintains itself. No sense maintains itself if it is not used. If a sense remains unused, it atrophies. The imitative process is automatic with children. They imitate whatever is around: parents, cats, dogs, insects, plants, cars, each other, and whatever images are delivered throughout the media. Of course, imitating the animal seen in the media image is not the same as imitating the animal seen in the forest. (Mander, 79).

Often, those concerned with the prospect of technology becoming a major part of the classroom, art, and society in general, question the meaning of technological progress and its implications. Cyberarts, Exploring Art and Technology by Linda Jacobson, contains a series of essays by various artists who express their concern, excitement, and opinions regarding technology imbued art. Leo Marx's essay, "Does Improved Technology Mean Progress?" reveals his point of view regarding the subject of technological progress:

Does improved technology mean progress? If some variant of this question had been addressed to a reliable sample of Americans at any time since the early nineteenth century, the answer of a majority almost certainly would have been an unequivocal "yes." The idea that technological improvements are a primary basis for - and an accurate gauge of - progress has long been a fundamental belief in the

United States. In the last half-century, however, that belief has lost some of its credibility. A growing minority of Americans has adopted a skeptical, even negative, view of technological innovation as an index of social progress” (Marx, 4).

While much of the media hail technology as the revolutionary panacea for the ailing classroom, there is also considerable sarcasm in the literature regarding this enthusiasm, and the failure of many in business, education, and the media, to remember technology’s previous performance in the 1970’s classroom.

Remember the Atari Democrats, with their self-assured pronouncements that high technology was the key to economic prosperity? Today, we have Nintendo Educators, who believe that America’s future competitiveness depends on putting computers in every classroom. This is silly, self-deceptive and dangerous nonsense. The belief that today’s computers -- or tomorrow’s breakthrough technologies -- will somehow rescue our schools from the abyss is the most destructive sort of wishful thinking. (Schrage, 1-2).

Equally represented in the literature is the opinion that technology is the next savior for education. Articles recount the latest computer use in a school district and the hope that is generated by its arrival. The literature in support of technology in the classroom promotes the computer’s ability to get attention, educate, tutor, motivate, and coach students. Additionally, much discussion surrounds a multitude of content possibilities that exist with current multimedia and storage capacities. Authors in this category believe that schools must change if they are going to respond to, and keep up with, the information society. In Endangered Minds, Dr. Michael Posner expresses this feeling, noting that “children see adults looking at television and working at computer displays more than they see them reading and writing. But we still act as if the only important skills were reading

and writing. We remain myopically obsessed with print literacy while our pupils continue living in a world that is increasingly high-tech and electronically visual and auditory (Posner/Healy, 321).

Like Healy, Brenda Laurel, in her books Computers as Theatre and The Art of Human-Computer Interface Design, examines the impact of utilizing technological elements in various media such as art and education. Laurel contends that technology, with its “direct, multi-sensory representations (has) the capacity to engage people intellectually as well as emotionally, to enhance the contextual aspects of information, and to encourage integrated, holistic responses” (Laurel, Computers as Theatre, 119). In general, Laurel’s books offer a different perspective on the creation and development of modern technologies. One of the themes surrounds the idea that technology offers new opportunities for creative, interactive experiences, particularly in the area of drama. Although in Computers as Theatre Laurel focuses mainly on the virtual reality media, the connections to technology, as defined in this thesis, and thus to theatrical education, are still evident.

Certainly, the move toward the notion of computers as representers of virtual worlds is a step in the right direction from the perspective of dramatic interaction. Enactments around prehistoric campfires, Greek theatre, and performance rituals of aboriginal people the world over are all aimed at the same goal: Heightened experience through multi-sensory representation....When we participate as agents, the shape of the whole action becomes available to us in new ways. We experience it not only as observers or critics but also as co-makers and participants....Systems that incorporate this sensibility into their basic structure open up to us a whole new dimension of dramatic pleasure (Laurel, 127, 187, 120).

Other writers in Cyberarts also stress the importance of bringing technology in the classroom, and specifically into the arts, as “through our communications and entertainment media, we have ever more access to every culture that exists on the planet, to every historical period of human activity” (Viola, 4). This concept, the notion of technology bringing greater focus to cultural issues, is also discussed in Todd Machover’s article, “On Information Overload.” Machover contends that any aesthetics specific to technological forms, including arts education, will have this commonality:

They will embrace the incredible, increasing diversity of our world while simultaneously establishing connections and commonality. Both extremes will continue to develop. It is no longer sufficient to have superficial clarity and homogeneity if they deny the richness of our world. However, it is also inadequate to create forms of human expression that deal only in momentary impressions, fleeting fragments, and dismembered associations, without any attempt at coherence” (Machover, 6).

This last quotation from Machover reflects a major theme of this thesis, and an issue that is not given much attention in the literature: Content. While the argument continues between those who promote technology in the classroom and those who would ban it, the issue of content is often ignored. The importance of discussing, researching and creating relevant content is paramount to the creation and use of technology in the classroom - especially the theatre arts classroom. Unless the content of a particular piece of technology is relevant, interesting, and significant for the theatre classroom, the media itself is meaningless. However, in order to determine the pertinence of technological content, a set of criteria must exist by which the content can be judged. To date, little, if any, research exists that establishes a set of criteria against which various technologies can easily be assessed. This thesis, by creating a unique set of criteria for high school level theatre

arts education, and reviewing, critiquing, and assessing various software and technological media against that criteria, will attempt to offer some insight into the potential relationship between technology and theatre arts education.

Vocabulary

Following is a list of vocabulary words commonly used in this thesis. The list is specifically comprised of vocabulary that is technical in nature.

CD-ROM

Compact Disk, Read Only Memory is a kind of computer storage medium that utilizes standard CD's. CD-ROM offers software developers tremendous storage capabilities, and the ability to deliver large amounts of information in the form text, sound, video, photos and graphics in a compact package.

Crash

Unexpected failure of a software program. Application stops running and computer may freeze, necessitating a restart.

Cursor

An iconic representation of the on-screen location of the input or pointing device.

Double-click

Refers to the action of pressing the mouse button twice in quick succession. Usually required to open a file or start a program while the pointer rests on that item.

Full motion video

Video viewed within a computer program that runs continuously, like a movie.

Hardcopy

Text printed on paper as opposed to a document that is read on a computer screen.

Highlighting

If users wish to manipulate a word, paragraph, document, etc. within an application, the text in question must be indicated, or highlighted, by utilizing the mouse.

HyperCard

A computer software tool modeled on a stack of file-cards. Users can organize different kinds of information on computerized "cards" and access those cards in any order from anywhere in the stack. The cards can be viewed individually, or in a slide-show format.

Interactive

A mode of software operation when the user has some degree of control over or involvement in the action.

Internet

The global, decentralized computer communication system. Users can access vast databases and converse with others via computer modem on common phone lines.

Memory

Digital data storage. Can refer to either the memory available for the computer to process data, RAM (Random Access Memory), or the mass storage space available in which programs and files reside, ROM (Read Only Memory).

Menu

Within a computer program, menus list the action options available to the user.

Monitor

Another name for the more common "screen".

Mouse

Common interface or pointing device with computers using a graphical user interface (GUI). The on-screen pointer is maneuvered by corresponding movements of the mouse on the tabletop. May include one, two or three buttons for indicating choices.

Multimedia

Software genre in which programs utilize multiple media, i.e., sound, video, text, etc. simultaneously.

Point and click

A mouse function that allows users to activate files or documents by moving the mouse to “point” to an item on the computer screen, and “clicking” the mouse button to activate that item.

Pop-up window.

A feature of many software programs that allows the user to see additional information about a particular item of interest. The information typically appears in box, or “window”, that “pops up” on top of other items on the screen.

QuickTime

An application used in Macintosh computers to run full-motion video. QuickTime is typically called from within another multimedia application and not used directly by users

Real-time

Action in the present. For example, Internet users can converse with one another “real-time.” rather than sending messages that are read at a later time.

Rewrapped

Rewrapping refers to reformatting the text of a document from its original source to fit the format of a computer program. For example, the format of a typical Shakespearean play could be rewrapped so that the text occupies the entire screen.

Reformatted

A reformatted document has been altered from its original form or layout, i.e. a play, to fit a computer program.

Scroll

The vertical movement of text within a computer document that the user controls. Pages within documents are typically depicted as scrolling vertically rather than left to right.

Technology

For purposes of this thesis, technology is limited and defined to digital technology via the personal computer, multimedia, software, and CD-ROM platforms.

Text-only

Text-only documents do not incorporate any other elements of multimedia, i.e. sound, video or photos.

User

The individual using computers or computer programs.

Virtual Reality

Software genre where applications seek to generate the sense of being in an alternate reality by presenting some of an individual's senses with appropriate stimuli and responding to many forms of input from the user.

World Wide Web

An section of the Internet devoted to multimedia presentations. A user can browse the "pages" of a Web "site" created by other users, whether individuals, groups or corporations, to provide information, entertainment or commercial services.

Chapter 2: Criteria for Evaluation

This chapter, *Technology*, reviews both specific technology platforms and existing theatre software programs to explore current products and what may be available in the near future (within five years).

Technological Platforms

From virtual reality to global “chat rooms,” a tremendous, often overwhelming amount of technological opportunities exist for educators. This thesis, however, focuses on three of the most promising technology platforms for theatre arts educators today: HyperCard, World Wide Web and CD-ROM.

HyperCard is a computer software development tool that enables users to easily organize text, graphics, sound and video into stacks of electronic cards, which are then accessed at random according to a user’s definition. Since its introduction in 1987, HyperCard has gained tremendous popularity among Macintosh users as no programming experience is required to create customized software. Users can build their own HyperCard stacks for use in everything from teaching, to interface prototypes, and business presentations. HyperCard’s flexibility allows for the creation of such diverse applications as curricula, computer-based training materials, games, interactive multimedia presentations, information kiosks, and training simulations.

By simply clicking on buttons, developers can quickly create stacks that help users navigate through cards, view QuickTime movies, listen to audio information, launch other applications and share data with those applications while working with a HyperCard stack (Wilson, 2).

Recently, Apple released HyperCard 2.3, a particularly powerful version, which greatly improves the performance, flexibility and graphics. This version also includes

text-to-speech capabilities that allow any Apple Macintosh computer to read specific text from a HyperCard stack aloud. "This capability adds new dimension to HyperCard's usefulness as a learning tool in education and home learning environments. For example, foreign language students can immediately reinforce the proper pronunciation of words as they are displayed in a digital document (Wilson, 2) - perhaps the theatre arts student studying Shakespeare could do the same.

The information highway often conjures up images of mass information and confusing, sometimes intimidating computer jargon. However, with guidance, use of the Internet and the World Wide Web for educational applications can provide tremendous learning opportunities.

Although an active, educational presence on the World Wide Web is still in early development, there are powerful future opportunities for educators, and specifically for theatre arts educators. "With the World Wide Web, and all the accompanying features of the Internet, teachers have a tool that will promote the best in cognitive and affective learning, expand the role of teachers to the mentorship that Socrates modeled, and diminish the walls that keep us in isolation" (March, 10). Web-based references are the first type of applications that educators will find useful, and they are in the form of informational databases. The virtual library and electronic periodicals are also indispensable tools for students as information is readily available in one location. However, "the vastness of the Internet virtually guarantees frustration if you always try to find every last piece of information on a topic. Instead, by finding references appropriate to interests, degree of expertise and grade level, educators can tap into support material that could not be obtained this easily anywhere else" (March, 7).

Web-based resources are important for both the educator and the student as they offer a massive storehouse of information on various categories which the student or

educator can access for research on various topics. Web-based resources include collections such as: Common Birds of the Australian National Botanic Garden, The WebMuseum, multimedia Virtual Field Trips which “can take students to places they could never go” (March, 7), and Interactive Video Conferencing, which makes it possible “to invite people from around the world into your classroom. A neat aspect of this capability is the potential for a broader spectrum of guest speakers, from famous celebrities to fellow students...as schools come on-line, students from around the world will be able to share ideas, information, and insights with their peers” (March, 7).

And finally, there are Web-based projects. While the typical classroom “project” involves interdisciplinary research, writing, artistic creations and reading,

full-scale, long-term web-based Projects start with the same premise, but then all all the feature and power of the Internet are used to create an extravaganza.

Whereas an “unplugged” class might study the Mayans by using encyclopedias, National Geographic magazines, reference books, and maybe a video, students who had Internet access could have participated in MayaQuest, a “wholly kid-directed bicycle expedition in to the Mayan world”...where students worked to unravel the mystery behind the fall of the Mayan civilization. Satellite-linked computers allowed cyclists and students anywhere in the United States to interact daily to come to mutual decision along the quest” (CUE, 8).

World Wide Web References, Resources, video conferencing, and e-mail empower students as contributing experts and/or data collectors “who explore particular components of the whole project’s focus. The heart of web-based Projects should be an inherently compelling “event” that benefits from in-depth examination from multiple perspectives and various academic disciplines” (CUE, 8) For full-scale, interactive web projects like The Mayans to be realized, partnerships between universities, software developers, schools and

communications corporations, must continue to exist and be cultivated. However, smaller, less complex projects can be created without major outside contributions, and information about upcoming Web-projects from other schools is broadcast in various media, such as educational publications and online educational bulletin boards. It should be noted that companies such as Computer Curriculum Corporation are developing Internet and Online services, such as SuccessMaker Online, for K-12 educators. These services will offer guidance and suggested activities prior to a teacher's journey online. Teachers typically "don't have the time to wander though cyberspace. SuccessMaker Online provides the tools and guidance teachers need to enrich their lessons with online activities and electronic communication" (Pena, 1).

In addition to the World Wide Web, the Internet also contains theatre resources that are mainly applicable for the theatre professional and academics. Resources include The American Society for Theatre Research, Virtual Library: Theatre and Drama, Historical Costumes, The Institute of Outdoor Drama, Medieval Performance, Drama and Theatre Connections, The World of Techies, the Drama Type, and theatrical electronic newsletters/journals.

Elements of multimedia are the driving force in the advancement of CD-ROM technology. Multimedia refers to computer-based, interactive, digital media, that is capable of combining sound, video, text, and most recently, telecommunication, in non-linear formats. In simpler terms, a typical software program utilizing multimedia incorporates music, video, still photos, and information about a particular subject, and allows users to explore the subject in a seeming infinite number of ways. From the science teacher giving a lecture on reptiles, to the musician developing a web site for the Internet, and the executive creating a business presentation, many different kinds of individuals and software developers utilize multimedia because of its visual impact,

versatility, educational and entertainment power. Following are three examples of relevant multimedia usage.

Media Station Studios is a company that uses multimedia to create, produce and market a wide range of family interactive entertainment software programs. "With each product, Media Station Studios integrates classic entertainment elements such as powerful interactive storytelling, compelling character development, comprehensive sound design, full musical scores and original and engaging wit and humor that appeal to the entire family" (Bock, 1).

San Francisco Museum of Modern Art utilizes multimedia to create three programs available on computer terminals in the museum. Eventually, these multimedia programs will evolve into a substantial art-related computer library.

The goal is to tear down the nearly palpable walls that typically separate museum visitors from the context of the art in the museum's collection. Through multimedia we can bring all media types together to enrich the viewer's experience of what we have. The idea really is to make it so the art reaches out to people and the museum gives people the tools they need to enjoy the art (Evenson, 33).

With the museum's multimedia program, visitors can ask questions about artists and summon letters, journals, photographs and other archival materials. The museum also has a multimedia educational program where users can review other art-related computer programs.

And in June, Apple Japan, Inc. unveiled their next generation multimedia telecommunication technology which allows for simultaneous collaboration on editing and/or designing among remote personal computers. QuickTime Conferencing allows

sound, graphics, animated pictures, and text information to be sent and received on real-time basis, thus permitting jobs to be simultaneously conducted in multiple locations.

While multimedia technology, as in the above examples, can be developed in different vehicles, i.e. business presentations, web pages, and Internet demo packages, CD-ROM - Compact Disc Read Only Memory, is by far the most popular. A CD-ROM looks exactly like an audio or music CD, but is capable of storing video, text and music and vast amounts of data on a single CD. A CD-ROM is inserted into a CD-ROM drive that is attached to a computer, and once loaded, CD-ROM programs are typically run by simply following the directions, pointing and clicking the mouse. CD-ROM programs enjoy a tremendous amount of media attention and many computer stores sell new computers with a CD-ROM player bundled into the price package to meet this perceived demand. Skeptics however, claim the CD-ROMs are often poorly designed, and that the market in general is flooded. This has caused some to ask the question:

Why would you want one? Well, they'll allow you to access mountains of material on nearly any topic. Say you're interested in Shakespeare, the play Hamlet in particular. A CD-ROM could provide you with the text of the original play, a movie of the same, professors' lectures on Hamlet, as well as references for further reading and other academic information
(Parenting, 11/94)

And this is precisely the kind of CD-ROM program that is being developed for, and is of obvious interest to, the theatre arts educator.

Theatre and Arts Related Products

The following software programs were selected for review based on their theatre arts or arts content and potential value for the Theatre Arts educator.

The Crucible, Norfolk County Council

Arthur Miller's classic, The Crucible, is one of the first CD-ROM multimedia programs developed for theatre arts and literature subjects. The Crucible opens with a visual of a theatre lobby that contains marquee-like signs in different areas. Users can double-click on the signs to view: "The Play", "The 1950's", "Exit", "Dressing Room", "The Playwright", "Help", "Program Notes", "The Balcony", "The Bookstore", "The 17th Century".

Entering "The Play" area, users can read an introductory explanation of each act, the text of the play, and annotations within the text. Additionally, they can view rehearsal still pictures, and in Act III, view a rehearsal via QuickTime. Within "The Play", users can search for a specific word. For example, if a user wanted to find all of the instances where the word "witch" is used in the text, she could select the Search function. Development of a theme or recurring idea could be discovered in this way. Also within "The Play", users can print out any part of the text for use in their own document or research.

"The Playwright" section is a sixty minute interview with Arthur Miller. When users toggle at the bottom of the screen to select a question, a clip of Miller answering the question appears. Standard video functions activate full motion video. The questions range from Millers' view on communism, to the plight of the Salem witches, and his view on particular performances of The Crucible.

"The 17th Century" section contains original source historical material from the 17th century, maps, historical documents, time lines, pictures, and text, as well as views

from contemporary historians. The Puritan era is discussed in detail to give the user a sense of the world of the play.

“The Dressing Room” contains actors from The Youth Theatre at the Old Vic in London, discussing their roles and character choices via QuickTime video. Here, users can also view and discuss the director’s casting choices.

“The 1950’s” section relates important information on the author’s experiences during the 1950’s McCarthy-era. Program Notes provides a short introduction to the play, and Exit and Help are simply user tools for managing the program.

Navigating through the program is simple and intuitive and the visuals are an excellent guide. The program did, however, crash three times² within “The Play” section. In addition to the CD, the package also contains an teacher’s guide with sample lesson plans, activities and ideas for teaching The Crucible via CD-ROM.

The Time, Life and Works of Shakespeare, Clearvue/eav

This CD-ROM program focuses on William Shakespeare’s background, the state of England during his life, and his writings. Although the program describes itself as “a full multimedia experience,” it does not utilize all multimedia functions - specifically, full-motion video is missing. The program does combine hypertext links, indexing, extensive search capabilities, and an online dictionary.

The program is broken down into four Feature Presentations: Old English - a thousand years of English pronunciation, Middle English, Early Modern English. Introduction to Power CD/and Power CD Quiz. Additionally, there are two other major sections of the program - Multimedia Presentation on William Shakespeare’s life, and Index.

² Macintosh IIsi, 9MB RAM, 880 MB Hard Drive, 4x CD-ROM.

By selecting the Old, Middle, and Early Modern English presentations, users can view a variety of text samples - songs, biblical selections, poems and stories. By using the controls on the screen, audio can be played, demonstrating the language of the particular text on the screen. Users are able to see and hear how the language evolved.

The Power CD/and Power CD Quiz presentations introduce the format of the overall program as well as the format of the Quiz section. Power CD Quiz is a sub-section of the Question Mode accessible throughout the program. Here, users review what they have just learned with a series of questions. Wrong answers are acknowledged and followed by a full explanation of the correct answer. Additional quizzes focus on entire areas of interest, such as The Elizabethan Court, and these are also graded and explained in full.

The Multimedia Presentation appears to be the core of the program. Here, users are taken on a manually or automatically run show that contains a timeline of Shakespeare's life. Users either click on the remote control buttons and move from picture to picture or select the play button for a continuous slide show. As previously mentioned, the illustrations and pictures are still, and narration weaves them together. Additionally, captioning at the bottom of each screen silently repeats the words that are being spoken.

The Index function is perhaps the most powerful element of the program. Not only is it a reference section for every conceivable issue surrounding Shakespeare, including art, music, history, and literature, it is also a reference section for all major moments in art, music, history, literature, world history, US history, Greek writing and history, and mythology. Also included are works from several dramatists, including Sophocles. Selecting an item opens up a dictionary-like section where all indexed items are defined in alphabetical order and the item selected is centered on the screen. While the volume and

scope of this reference is incredible, the relevance of many items to the core of the program is questionable.

There are several interesting functions worth noting. The View function allows users to browse all of the photos contained on the disc, and each photo is fully identified. The Word Meaning function is a glossary for those words that are highlighted in any of the programs' text. Should users want to have an un-highlighted word defined, a standard computerized dictionary is also available. If a user wants to see how often and where a particular word is mentioned, that word can be typed into Word Search and the instances are shown.

The audio in this CD failed repeatedly though hardware requirements had all been met.

Shakespeare's Theatre, Clearvue/eav

Identical in format to Clearvue's other title, The Time, Life and Works of Shakespeare, Shakespeare's Theatre takes a closer look at Shakespeare's work at the Globe. The core of the program is again the twenty-five minute Multimedia Presentation on the history of theatre in England just prior to Shakespeare's time, Shakespeare's personal history in theatre, important actors and shareholders of the time - i.e. Marlowe, Jonson, Burbage, and specific details on the structure and various purposes of the Globe. Again, the narration is accompanied by captions at the bottom of the screen, still illustrations and pictures. The same language presentations are present, as is the extensive indexing functions, and quiz/test section.

After reviewing a second CD-ROM program from Clearvue, it is worth noting that the language used throughout the Multimedia Presentation, while in English, is muddled with unnecessary Old English flourishes that could be confusing for younger students and

even adults. Once again, the audio in this program failed repeatedly within the same section as The Time, Life and Works of Shakespeare.

The Complete Works of Shakespeare, Creative Multimedia

This CD-ROM program contains all of Shakespeare's plays, poems, and sonnets. With the exception of two still illustrations of Shakespeare which are located in the Document file of the Title Page, this is a text-based program. Several functions have been given to the program to make it somewhat more sophisticated than simply reading the plays on a video monitor. First, by utilizing CD-ROM, the creators of this program can take advantage of the storage capabilities inherent in the platform and put all of Shakespeare's plays, sonnets and poems, in both the original text version - Queens, and the translation into American English, in one place. Second, all documents contain rewrapped and reformatted text that fills the entire computer screen for easier readability. Each play and poem is renumbered and line numbers may differ from those in the traditional hardcopy formats. Each play is broken into scenes to make the index and retrieval process more efficient, the probable date of writing is included at the beginning of each piece, and they are arranged on the disc in approximate chronological order. A Glossary includes brief definitions of the words selected and the works, plays, poems or sonnets, which contain that word.

An unusual feature, called The Dramatis Personae, provides an expanded list of every speaking part for each play. Whenever a part in the play is indicated by a different name than that used in the Dramatis, the different name is noted within parentheses. After the listing of "Lords, ladies, servants, &c." there is a complete list of all the 'bit parts' in the play.

Stage directions are separated from dialogue to make reading them easier, and original directions are placed in braces while editor's directions are kept in brackets.

All of the standard word-processing features exist, including, save, print, cut, copy, paste and font manipulation. The Search menu lets users access on-line searches on various indices such as words, authors, titles and subjects, and clicking on the Titles button lets users see the titles of the documents matching their search criteria. The Browse function lists every word of every document on the CD and the number of documents that contain the word. Again, clicking on Titles allows users to see the titles of the documents matching their criteria.

Having the complete works of Shakespeare, both in American and Queen's English, is a tremendous resource, as is the glossary of terms, and the ability to quickly search for certain words, themes or trends. However, little else has been done to make this program attractive. The layout is clumsy, the margins are not justified, character names are difficult to decipher within the text, and no visual relief exists within the major documents. Staring at text on a computer screen is not an enticing alternative to reading a book, and to the student comfortable in both mediums, reading the book might be the more satisfying alternative. This program can be seen as an illustration of technology being used for its own sake.

The audio in this program failed repeatedly and memory was not a factor in this problem.

Shakespeare's Twelfth Night or What You Will, Renaissance

The title of this CD-ROM program, Shakespeare's Twelfth Night or What You Will, implies that the content focuses on Shakespeare's play, which is not the case. The actual text of the play is given the least amount of attention in the program, as it appears in a miniscule box in the lower part of the screen and users must scroll through each screen to read the play. The most significant reference to Twelfth Night or What You Will is a section that delineates the scenes and lists the characters of the play. Perhaps this program

is better deserving of a title such as “Shakespeare’s Life” or “The History and World of Shakespeare” as it spends the majority of the time attempting to bringing clarity to those areas.

The program is alive with beautiful and rich illustrations, text, audio and graphics, and does a nice job, in the Introduction, of explaining the various areas to the user. As a graphic “homeplate”, the program uses a depiction of Camillo’s Theatre of Memory Stage, claiming that like Camillo’s work, the program is full of meaningful content. This graphic stage is divided into seven sections: The Theatre of Memory, Shakespeare’s Life and Times, Glossary, Twelfth Night, Renaissance Theatre, Elizabethan England, and Guided Tours. In keeping with the theme, within each section, of these seven sections, is seven subcategories.

As expected, The Theatre of Memory section recounts the history of the issue, from classical, to medieval, and includes references to Camillo’s theatre, and more. Within each of the sections, users can click on pictures, read text, listen to audio and maneuver somewhat freely. Again, the graphic choices, illustrations and detail are beautiful and interesting to look at in this section. One problem that exists in this section, as well as other sections throughout the program, occurs when a piece of text is on the screen and the audio begins to play. One expects to hear the text that is on the screen, which is not always the case. This can be confusing as it is unclear whether to read the text or listen to what is being said. While the idea of using the Theatre of Memory as a theme for a CD-ROM program about Shakespeare is interesting, the emphasis and reminders about that theme are somewhat overdone, especially at this point in the program, when users are expecting the focus to be on the text of Twelfth Night or What You Will.

The next category is a chronology of Shakespeare’s life that places him in a timeline concurrent with Elizabethan historical events, and significant moments in the theatre. This

section also contains a biography, information about Stratford-Upon-Avon, a complete list of Shakespeare's plays and sonnets, and a section about his contemporaries.

The Glossary contains an alphabetical listing of words from Twelfth Night or What You Will, however, no reference is given to the location of these words within the play, and the glossary content is quite unimpressive when compared to hardcopy versions of Shakespearean anthologies. Additionally, the Glossary contains a list of illustrations that identifies the images used in different sections of the program. An enormous Bibliography includes a multitude of historical and theatrical items, the relevance of which is often questionable. The remainder of this section is devoted to the software's own bibliography, a list of illustrations, and program acknowledgments.

Following The Glossary is a section called Twelfth Night, where users would expect to find the text of the play. However, this section is simply a text-only breakdown of the scenes and a list of characters.

The Renaissance Theatre section is perhaps the most interesting as it takes a comprehensive look at Elizabethan theatre. Included is information on pageantry, the Globe Theatre, the De Witt sketch of the Swan Theatre, London Theatres, Playgoing and Costume. Each section provides a very detailed look on the subject. For example, the De Witt sketch section brings up the famous sketch, text and audio explanations, and allows users to click on the words within the sketch for more detailed explanations. The Globe Theatre section includes information on the history of the Globe and its rebuilding in a very interesting 3-D animation. And in Costumes, users can learn about the life of The Tireman (costume designer), and the conventions for dressing men as women. This particular section could use more detail and examples of the costumes used in Shakespeare's time and in particular plays.

In Elizabethan England, the sections are: Home, garden, school, church, hospital, and hostelry. Each section gives a concise overview of the subject matter with text, audio and illustrations or pictures. In the garden section for example, users can view different gardens that would have been prevalent in Shakespeare's time in both the peasant and nobility homes. Additionally, this section includes views of old London, information on the Armada and maps. There is little interactivity in this section, as it is limited to pointing and clicking from section to section.

And finally, Guided Tours takes the user through automated tours of the entire program, by section.

While this CD-ROM program is visually intriguing, its purpose is unclear. Users will buy this program believing it contains the play Twelfth Night or What You Will and supplementary information about the author and his life. Not only is the text of the play inadequate, but so is any other substantial acting or dramaturgy vehicles for analysis, including audio monologue readings, or QuickTime video performances. The information included in this program is interesting and enticingly presented, but users may have difficulty determining what its use might be - especially for the classroom. This problem is exacerbated by the obvious lack of teacher reference materials to aid the educator in using the product.

There are also few problems regarding the text. As mentioned, it becomes confusing when the audio and text do not match. Additionally, the text is often colored red and placed against a black background, making it difficult to read. Also of concern is the use of language, as at times, the vocabulary may be too advanced for the average high school student. The program runs smoothly and no technical problems were evident.

Macbeth, Voyager

By far the most sophisticated theatre arts product reviewed, Macbeth by Voyager utilizes all of the multimedia capabilities of CD-ROM to create an interactive book. Co-written by two theatre arts literature professors, Macbeth's format is clearly aimed at the theatre arts educator. Additionally, the production value of Macbeth is the cleanest and most professional, as it contains the fewest technical problems of all the programs reviewed. The interesting QuickTime video, dynamic illustrations, historical pictures, stirring audio by the Royal Shakespeare Company, and colorful graphics, provide useful information and easily keeps users' attention.

The program is divided into ten sections: Introduction, Characters in the Play, The Tragedy of Macbeth, Summaries and Commentaries, Essays, Clips Gallery, Picture Gallery, Concordance and Textual Matters, and Macbeth Karaoke.

The Introduction is an opening audio section by UCLA Shakespeare Scholar David Rhodes, who is responsible for the creation of the program. Here, an overview of the historical, dramatic, and critical issues surrounding the play are reviewed. As expected, Characters in the Play lists all of the speaking parts in Macbeth. This section also provides information on a character's role in the action, his or her number of scenes, a list of those same scenes, the character's total number of speeches and lines, and a scene-by-scene list of his or her speeches listed by their first lines.

Within The Tragedy of Macbeth is the text of the play, annotations, the complete audio of the Royal Shakespeare Company performance, and occasionally, QuickTime video clips from well known film versions of the play. Annotations are highlighted within the text, and annotated passages are indicated by a dagger symbol located on the margin next to the passage in question. Clicking on the word or the dagger brings up a pop-up

window containing the definitions. Within the text of the play, users also have the ability to note their own impressions and thoughts in their own electronic notepad.

Summaries and Commentaries provides a scene-by-scene précis of the play and commentaries on each scene and act. Commentaries on each of the aforementioned film clips are also located here.

Essays on subjects related to Macbeth are within the next section of the program, including Shakespeare's biography, essays on the Elizabethan and Jacobean theatre, theatrical practice, performance history and style.

The Clips and Picture Gallery provide visual information in the form of stills and QuickTime video. Clips Gallery reviews important cinematic adaptations of Macbeth by showing excerpts from three major filmmakers: Roman Polanski, Orson Welles and Akira Kurosawa. After each clip, commentaries on the director, directorial choices, and historical, political and societal influences are revealed. Picture Gallery contains many still images of the play, from historical to artistic renderings. Also included in this section is a map of Scotland where users can highlight a location from selections on a scroll bar for enlargement on the map. A map of London as it was in Shakespeare's time is also available and appropriately noted with significant theatrical landmarks.

Concordance and Textual Matters is a research area, designed to help students analyze Macbeth. Several tools are available, such as a complete index of all words spoken in the play and an active listing of every reference.

Finally, Macbeth Karaoke is an interactive section that allows users to "perform" along side other actors. Users select either Act 1 scene 7 or Act 2 scene 2 to perform, choose their role, and click play from the video controls. The text of the scene is on the screen, and a moving ball notes the line that is being spoken. When the user's line should

be spoken, the audio quits and the ball keeps moving to help the student along in his or her performance.

Although this program is more sophisticated in terms of programming than previous programs reviewed, there were still a few audio problems. Most notably, when viewing a QuickTime video from within the text, the video would often continue while the text remained still, rather than the two moving forward simultaneously. Additionally, on a few occasions, the audio was unclear and/or full of static.

Chapter 3: Criteria for Evaluation - Educational Mandates

This chapter reviews NSAE and NAST guidelines and requirements for theatre arts programs at the high school and college level. Information gathered from existing documentation, and implications of both NSAE and NAST guidelines on future educators is discussed.

NAST

In determining if technology can aid theatre arts educators in fulfilling educational mandates, we must first analyze the information contained in those mandates: “The National Association for Schools of Theatre, and National Standards for Arts Education.” By reviewing and analyzing these mandates, this thesis will attempt to extract the base criteria against which the specified technology and software programs will be evaluated.

The National Association of Schools of Theatre, or NAST, is actively “engaged in a continuous effort to discover, understand, and act wisely on issues, ideas, and conditions that are creating the future of theatre, the future of the American society, and their interrelationship” (NAST ES, 1). To that end, NAST creates and produces the “Executive Summary” series, generated approximately every three years and sent to NAST collegiate and faculty members for review, discussion and implementation. The Executive Summary series mirrors the National Standards for Arts Education, or NSAE, document somewhat

as its goal is to establish a cohesion and mutual mind-set among theatre arts educators in higher education. However, the Executive Summary series makes no attempt to provide an outline or set of specific criteria which educators must follow and theatre arts students must fulfill. Rather, their “objective is to distill major themes, trends, and prospects into a form that encourages and empowers individual and institutional reflection, analysis, and action” (NAST Executive Summary introduction, 1). Each series is created by closely examining the state of theatre, politics, economics, culture, education - anything and everything that has an impact on theatre arts and the arts in general. Specific topics are then generated, reflecting the most important future issues relative to theatre arts at the moment.

The purpose of the series is to organize ideas and encourage thought about the future, not to establish a national blueprint or action agenda. The ideas and suggestions presented herein represent the best information and analysis available at the time of completion. (NAST ES introduction, 1).

NAST Executive Summaries provide academic theatre arts institutions and educators with the impetus to discuss their own situation relative to the information revealed in the series.

NAST identifies the following major topics of discussion for theatre educators and professionals: Demographics, Theatre Values, Professional Education and Training, K-12 Issues and Influences, Technology, Economics, and Values and Ideas. Two Executive Summaries that are predominantly administration-based are not relevant to the study in this thesis and will not be discussed.

Within the Executive Summary entitled Demographics and Multicultural Concerns, NAST focuses on demographic trends and their influence on the future of American culture.

This relationship contains larger issues and significantly more promise than what is indicated by direct extrapolations of statistics about race, culture, aging, and

work patterns. At present, conditions have developed to the point where obligations inherent in high artistic goals are regularly being characterized as the opposite of social responsibility. Such challenges raise concern throughout the professional arts and arts education communities (NAST, ES 2, 11).

Specifically, NAST contends that American society has consciously relegated cultural development to the individual and his or her own initiative and interest; “Culture is something that we have as individuals, not something that we build as a nation” (NAST, ES 2, 11). This way of thinking, purports NAST, adversely impacts the arts community in terms of the value society places on the arts as a major part of American culture and individual lives. If culture is not elevated, in some degree, to our collective consciousness as Americans, if we choose not to support and take pride in it as a nation, how can the arts maintain importance in society?

This lack of value that society places on the arts as a major part of American culture can be evidenced in school systems that place theatre, music, and art programs at the top of the list when financial cuts need to be made (NAST, NSAE). Obviously, this kind of thinking implies that exposing children to the arts is a luxury, not a national necessity. Conversely, as mentioned in Chapter 1, there is a nationwide trend to bring technology into every classroom. A question quickly forms from these two trends; since the use of technology in the classroom appears to be an accepted and often sought after expenditure, can children who do not have the opportunity to experience the arts in school, obtain exposure to the arts via technology, i.e. music and art CD-ROM programs viewed and studied within a history or English class? Perhaps this is not the ideal way to give children access to drama, music or art; however, if it is the only way, it certainly is a desirable alternative. In this summary, NAST asserts the need for the nation as a whole to support the arts. However, this desire is somewhat unrealistic as the nation is currently undergoing

a major transformation, altering the way it works, studies, communicates, and recreates, largely because of the onslaught of new technologies and the development of the information superhighway (Lang-Ree). Rather than hoping that the nation will come together in support the arts as they stand, perhaps artists can find ways to accommodate this transformation by offering new ways to access culture. This kind of discussion is a missing element in the NAST summary.

The second major point in the summary surrounds the definition of heritage. “Like culture, heritage is an amalgam of many things. Two of the most important are world views and ethnic backgrounds” (NAST, ES 2, 11). To clarify, in a perfect situation, a viable, mutually reinforcing relationship exists between heritage as ethnicity, and heritage as a world view. However, some contemporary intellectual trends, such as election and magazine polls, which focus on identifying ideas by source, such as sex, race and ethnicity, obscure the necessity of a distinction between heritage as world view and heritage as gender or ethnic origin, thus destroying the notion of a mutually reinforcing balance between the two in both personal and community terms.

As is natural in a democracy, this valuing of source over critical standards both in and among bodies of thought and genres of cultural activity can have a great impact on the future of theatre. Decisions that are made about this issue will influence the extent to which a multicultural society can establish a common vocabulary of ideas with which to communicate and work together. The question, therefore, is not whether there will be a multicultural agenda, but what *kind* of multicultural agenda ” (NAST, ES 2, 11).

The notion of a multicultural agenda that reinforces the relationship between heritage as ethnicity, and heritage as a world view, is a fairly broad mandate that institutions might find intimidating to discuss much less address within their curriculum.

The vagueness of the discussion is at the heart of the problem, and the section would be better served with more specific detail regarding the issue of multiculturalism in theatre, and possible guidelines for addressing the subject, and less theoretical discussion. However, the overriding thrust of this summary is clear: NAST's advice is to uncover any and all opportunities for developing a multicultural agenda within an institution, be it through performance, casting or education. With a clearer definition and discussion of this point within NAST, a criteria can be created for this thesis, e.g., can this technology promote multicultural study, or can this software promote and demonstrate multicultural casting?

Additional sections within this summary examine demographic and multicultural issues in the U.S. under varying conditions, and their impact on theatre arts and the arts in general. These demographic and multicultural issues include Age, Race/Ethnicity, Family/Gender and Education of the Work Force. Specifically, statistics show that after the year 2010, the U.S. will consist of a predominantly elderly population, which will thus affect cultural elements such as fashions, trends, as well as the wealth distribution and balance of discretionary income (NAST ES 2). The relevance of these statistics is not clearly delineated, although it can be inferred that since there will be more older citizens with discretionary income their support via sponsorship of the arts or increasing attendance might affect a theatre's production choices. Following sections also discuss the rise of working women and their subsequent increase of discretionary income. Again, the same inference can be made about where that discretionary income might be spent. Additionally, NAST points out that more women working means more children in child care facilities who might benefit by exposure to the arts.

This section offers little for the theatre arts institution, or this thesis, in terms of relevant information for discussion or curriculum development. Additionally, this summary contains little information on which this thesis can determine the viability of a

technology-theatre arts education relationship, and its applicability to a theatre arts institution's curricula in general is questionable. While it is understood that NAST is trying to offer points for discussion and not concrete mandates, the reader is left to draw too many inferences, not knowing which point is truly important to NAST and thus to their curriculum agenda. For example, the concept that women in the work force equals an opportunity for theatre arts educators to reach young children who are in child care is, at best, a stretch for the theatre arts educator using NAST as a guideline for their own curriculum development. If there is relevance for the educator in this section, NAST has smothered it in rhetoric and statistics.

The end of the summary does contain some pertinent and interesting thoughts with regard to multiculturalism. Here, readers are advised to examine how their institution defines culture and how they view "the intellectual notion of culture in relationship to the intellectual notion of multiculturalism" (NAST, ES 2, 14). Are students being oriented to the idea of culture and "their specific role in it as individuals and as participants in a profession with many interacting parts" (NAST, ES 2, 14)? How far does the curricula go towards developing an understanding "of the relationships and interrelationships among the intellectual, vernacular, and psychological forces of theatre?" Does it include the "development of an improved sense of responsibility for culture as a whole, for theatre culture in particular, and an understanding of the interrelationships among various aspects of the entire theatre enterprise?" (NAST, ES 2, 15). Readers are asked to look at their own institutions and the existence or lack of multicultural approaches in theatre curricula at various stages of instruction as well as in the presentation of plays. Here, finally, are several concrete mandates that any theatre arts educator can examine and work towards fulfilling. Does the institution know how it feels about multicultural education? Are students receiving theatre arts education that encompasses multiculturalism? Can the

curriculum further this education? These particular mandates are also potentially useful to this thesis as they offer more detailed information about what is expected of the teacher and student, and the desired end result - multicultural education and exposure.

The primary issue in the next summary entitled, Theatre: Values, Traditions, Means, and Product, is the values balance between theatre-as-center vs. theatre-as-means as held by theatre institutions and professionals.

The extent to which theatre is valued on its own terms rather than primarily as a means to other ends has significant impact on the evolving contexts in which theatre professionals work. Every decision about theatre is affected, from the choice of theatre to be presented, to the place of theatre in individual and organizational hierarchies of educational and cultural values. Conditions are also influenced by relationships among ideas, information, and content. The presentation and reception of ideas and information have a profound influence on the creation of value. The creation of value leads to the creation of a market, not just in goods and services, but also in ideas about what works and doesn't work, what is important and not important, and what contributes to substantive well-being and what is ornamental. (NAST, ES 3, 19).

These relationships among ideas, information and content, evolve in response to pressure from many sources and NAST believes that, "individuals and institutions centered in the practice of theatre give insufficient attention to the evolution of these policy forces" (NAST, ES 3, 19). Rather, these kind of issues are often left to those with a contextual rather than artistic orientation, resulting in tremendous diversity of public opinion concerning the nature of artistry and creativity. A similar parallel can be made between theatre arts educators using technology in the classroom, and the designers of that technology who do not necessarily have an artistic orientation and often create products that elicit mixed

opinions regarding their value as an artistic tool. In both situations, the concept of theatre-as-center has been lost behind the concept of theatre-as-means.

Much of this summary focuses on the importance of studying and practicing theatre for theatre's sake, as opposed to studying theatre through other classroom curricula, or as a supplementary course. As a mandate, the concept is immediately useful to theatre arts educators. For by designing curricula specifically for theatre arts students, hiring teachers with expertise in theatre arts, and working within an institution towards the strengthening of the arts, theatre arts educators have the ability to advocate the importance and relevance of a theatre arts degree for its own merit.

A section of the summary, entitled *Technological Advances*, reflects a feeling of apprehension and concern regarding the use of technology and its effect on the value of theatre. The section also questions the impact of technology "on perceptions regarding human and machine contributions to theatre and theatre-related products and the impact of this perception on values about what individual theatre professionals do" (NAST, ES 3, pg. 20). Using caution when analyzing a new theatre arts tool is sensible; however, the issues raised and the concern implicit in the text is more reactionary than substantive and the apprehensive tone is inconsistent with the rest of the document in which NAST conveys knowledge and practicality in other non-theatre areas, such as economics and marketing. Additionally, NAST makes the assumption that using technology to study or experience theatre immediately compromises the "means/ends considerations...in the value systems of theatre professionals" (NAST, ES 3, pg. 20). Does watching Hamlet on a video tape rather than seeing a live performance lessen the play's value? Is lighting controlled by computerized light board less legitimate than if controlled by a manual light board? Both video tape and computerized light board are technological advances that can enhance the theatrical experience positively without losing a theatre-as-center mentality. Why is

current technology regarded as more of a threat rather than another potential opportunity? Certainly, any new technology should be examined for its content relevance and usefulness in furthering theatrical education and performance, and in NAST's defense, there is currently no consistent way to measure new technologies for the classroom. However, rather than imbue a sense of apprehension regarding new technologies, this section would better serve readers by noting concerns and offered guidelines for implementing systems to evaluate new technologies. The criteria offering in this thesis will give theatre arts educators the kind of evaluation system they need to review technology and its potential to help them meet educational mandates in the classroom.

The discussions in this summary, while important and interesting, lack focus. For example, one section raises concerns about "the formation and alteration of consensus, about quality, including speed, longevity of opinions, change forces" (NAST, ES 3, pg. 19), another discusses the impact of technology on the definition and content of theatre, yet another discusses "evolving professional/public definition of what constitutes 'theatre'" (NAST, ES 3, pg. 19), and another reviews "public and private patterns of patronage and their impact on artistic content" (NAST, ES 3, pg. 20). NAST's message that the concept of theatre-as-center should be reached for in theatrical education and performance is clear in the beginning of the summary. However, the broad scope and general vagueness of the remainder of the summary does little to illuminate this concept, and could make discussion and implementation of the idea within an institution intimidating and overly complicated. In terms of its usefulness for this thesis, using just the concept of theatre-as-center as a criterion for technological evaluation could be a relevant choice, as theatre arts educators often fear that technology or software will overshadow the content of their classes (NAST).

The executive summary entitled, *Professional Education and Training*, discusses issues that are central to the creation of an assessment document in this thesis as it reviews

the state of theatrical teaching and its future amidst change. NAST states that theatrical education has a long and successful history of developing skilled theatre professionals and although this is likely to continue, future influences indicate that a greater variety of approaches among institutions may be utilized and accepted. "Some new approaches will develop by design - driven by the vision, energy, and will of individuals involved - and some will arise in reaction to outside forces" - like the development of educational technology (NAST, ES 4, 25). NAST notes that in the future, there will be respect for different methods of accomplishing similar functions - they do not specifically mention why - but the extent to which there is national agreement on what should be basic to theatrical education is unpredictable, all leading to

a future predictably replete with concerns about quality, rigor, substance, and evaluation. Clearly, the lack of a single, extended scale of values does not mean the absence of any values scale at all. Dealing positively with greater diversity may produce new agreement about a smaller basic core of study for all theatre professions, thus providing increased curricular flexibility for institutions (NAST, ES 4, 25).

Having respect for different methods of accomplishing similar functions is a key concept in the development and use of technology in the classroom, where differing types of technology and software may accomplish similar functions. Additionally, the increased curricular flexibility NAST predicts makes the possible implementation of technology in the theatre arts classroom easier to visualize, as curriculum could perhaps be molded to make better use of a technology - without losing its focus on content.

In this summary, NAST also discusses the assumption that in the future, theatrical educators and their students will experience change at an incredibly rapid pace due, in part, to the continuous onslaught of new technologies and their impact on education and society

in general. In light of this, NAST recommends that educators remember what is central to theatrical education and ensure that “making, studying, and teaching theatre are the ancient issues, and these issues need not be overshadowed by evolving and often fickle conditions. This challenge calls for new and deeper thinking about the theatre enterprise as a whole and the role professional education and training plays within that enterprise” (NAST, ES 4, 25). Although this last statement is not necessarily meant to apply to the technology/theatre arts educator relationship, it does. Here NAST unwittingly illuminates a critical element in the success or failure of a relationship between technology and theatre arts educators: professional training. Educators supplement their training through workshops and seminars in an effort to improve teaching methods. However, the theatre arts educator utilizing technology will need on-going, in-depth training to keep up with continuing changes in technology, and to realize fully the possibilities of technology in their classroom. NAST also implies that using technology will automatically overshadow the content of theatre when referring to “fickle conditions.” Why the use of technology cannot aid in the making, studying, and teaching of theatre without overshadowing theatre, is unclear. Technology as a medium is not so much the problem as is the content of that technology. This thesis, in evaluating both the technology and the content of various products, attempts to address these same concerns by removing the mystique surrounding various products and platforms and revealing their ability or inability to help the theatre arts educator teach.

As in previous summaries, the section on technology in this summary is filled with concern regarding the implementation of technology in education. This apprehension regarding the future of technology in the classroom is poignant as NAST appears to recognize fully and acknowledge that technology will be part of the theatre arts classroom in the future; however, it is reticent, at this point, to offer support towards implementation.

Rather, NAST advises readers to be aware of the kinds of skills, knowledge and information students need to function and practice as theatre professionals in the twenty first century, the impact of technology on planning and executing theatrical curricula, and “the extent to which machine use becomes an end in itself” (NAST, ES 4, 26). This section is problematic for readers looking for guidelines in the development of a technology enhanced curricula. For while NAST discusses the eventuality of technology in the theatre arts classroom, it mostly offers cautions as guidelines, greatly mixing its message - is technology something to fear and avoid using? More dialogue needs to exist that perhaps offers examples of successful or unsuccessful implementation of technology or software in a theatre arts classroom. This would at least give the reader greater awareness of both sides of the issue and is precisely the kind of information this thesis will attempt to offer.

At the end of the summary, NAST suggests that readers wishing to address issues of professional education and training focus on several issues, urging the development of curricula and other programs to help students cope with rapid contextual change, aid in their understanding and support of the intricate interrelationships among various segments of the theatre profession through multidisciplinary and interdisciplinary study, broaden student understanding of the relationship of theatre to other areas, make a conscious attempt to develop opportunities for practice in integrating knowledge and skills from more than one discipline, especially in terms of problem solving for theatre, and develop more opportunities for work that is collaborative across theatre disciplines (NAST, ES 4). One of the few truly focused sections of all the summaries, here NAST offers some realistic and concrete guidelines for theatre arts educators wishing to improve their professional training and the education of their students. Interestingly enough, though in prior sections NAST appears reluctant to support the idea of implementing technology, the above guidelines are

all easily addressed with the help of technology. This will be discussed in detail in later chapters.

While prior summaries show evidence of concern and apprehension regarding the use of technology, the summary entitled *Technology and Technique* takes a serious, more aggressive look and at the application of technology to theatre arts: "Management and wise use of technology and technique toward achievement of our purposes is as critical an issue for the future as technological development for its own sake" (NAST, ES 7, 49).

There are two major focuses in this summary. One clarifies the importance of distinguishing between using technology as the driving idea behind a curricula versus using technology as a laborsaving device. Here, NAST advises readers to make decisions regarding the purchase and use of technology based on technology's ability to make the job of educating easier - not because the technology itself is appealing.

Relationships exist between techno-dazzle - being bewitched by the technology's potential to provide power and mastery over human problems - and the "white elephant" problem - over-enthusiastic embrace of new technologies that quickly become outdated or do not solve the problems that were intended to be addressed. Be wary of the tendency to treat technology as a solution in search of a problem (NAST, ES 7, 54).

This concern, for using technology as a means rather than an end, is valid as examples of this problem can be seen in some of the theatre-based software programs currently on the market, such as Morgan Interactive's *Recess in Greece*. The program, designed for elementary-age children, leads consumers to believe that the content focuses on a story based on Homer's *The Iliad* - "Guide Morgan through episodes of Homer's classic, *The Iliad*, and discover how Ancient Greece has shaped the Modern World" (Morgan Interactive). However, the program is driven not by Homer's story, but by the capabilities

of CD-ROM and its animated bells and whistles. The guidelines in this summary are very clear - when using technology, educators should strive to find programs and platforms that help deliver their curricula and avoid using technology where the content is secondary. As a criteria for this thesis, it is useful and should play a role in the evaluation of software and technology to meet educational mandates.

The second major focus is similar as it also deals with the issue of curriculum content. NAST contends that although there are many possible benefits, the relationship of technology and curriculum content increasingly complicates education and performance as users often become fascinated with process rather the product. If technology is to become a part of the theatre arts classroom, NAST notes that theatre arts educators must first concentrate on bringing clarity to their own curricula so that it retains its intent whether it is delivered by a teacher or by a CD-ROM program.

Blind overweening faith in technology/technique - the technological mentality - shapes views of truth, ways of thinking, and therefore choices about content.

Content thus conforms to the capabilities and demands of technology; fascination with technique can obviate the importance of clarity, depth, meaning, logic, and even truth expressed in nonmathematical terms. Such a mind set has little faith in works that represent superior achievements of the human spirit and imagination (NAST, ES 7, 49).

Technology can be exciting, even thrilling to use and manipulate. For example, current CD-ROM programs have the potential to bring life to literature and performance in fantastic ways, and becoming caught up with the technology itself is easy. With this in mind, in this thesis, software and technology are reviewed multiple times in order to move past the interesting graphics, colorful illustrations, dynamic sound and video, to a close examination the significance of the content itself. Often, the content is just as interesting

and relevant as the delivery system - often it is not. NAST's guideline in this summary is therefore legitimate and useful for the educator and also for use as a criteria in this thesis.

Two other points within this summary are significant to this thesis. First, what NAST calls the relationship between technology and academic freedom, and "allocations of responsibilities for determining content and learning materials for course work - what will and will not be used; the extent to which content decisions are increasingly made by creators of software" (NAST, ES 7, 50). While this is an important point to make to theatrical educators, nowhere does NAST make the point that educators, or even NAST, could address this issue by becoming more involved in the process of content development as consultants, developers and purchasers. Educators could contact software companies and offer suggestions or consulting services, learn to create unique Hypercard programs for their own classroom curricula, develop assessment documents to determine the ability of content to meet curricula needs, or, at the very least, become educated consumers, reflecting knowledge through purchasing power. The only way to combat content problems in theatre-arts software is for teachers and organizations such as NAST to become involved; however, this mandate is lacking in the NAST summary. Research and information, such as the kind contained in this thesis, can play a role in helping theatre arts educators assess technology and make content determinations regarding the technology they purchase for their classrooms.

The second and final point of the summary is NAST's recommendation for multidisciplinary and interdisciplinary work in theatrical creation and education. The concept is discussed in relation to technology and the role technology might play in aiding multidisciplinary and interdisciplinary study. This thought is well-founded, as many forms of technology, such as CD-ROM or Hypercard, are designed to handle multiple subjects

via multiple media while providing a non-linear structure in which to learn and evaluate material.

Values and Ideas, the title of the final Executive Summary analyzed in this thesis, focuses on values, ideas, and their interrelationships which are deemed “central to the conduct of human affairs” (NAST, ES 8, 57). The summary’s focus is on the nature of values and ideas, and the text is quick to note that even in an age that constantly searches “for empirical truth through scientific and technological methods, values and ideas keep reasserting their pre-eminence to such an extent that an Executive Summary of this kind is hard pressed to cover the metaphysical labyrinth” (NAST, ES 8, 57). Often, the world of values and ideas is ignored because it is so large and complex. Additionally, the degree to which individuals, institutions or organizations monitor values and ideas basic to its operations varies, “given the nature of their transacts in the system, their priorities, and their sense of danger. However, avoiding fundamental issues of values and ideas is imprudent because every individual and organization concerned with the arts in higher education is a heavy investor in the nation’s cultural future” (NAST, ES 8, 57). NAST expresses concern with educator’s tendency to equate significant values and ideas with access to vast quantities of information.

Perhaps the most difficult issue, however, is the increasing tendency to substitute information for values and ideas. Over-reliance on information has led to deep concerns about the development of critical thinking, which involves the compilation of information, the assessment of such information against values and ideas, and the ability to craft solutions suitable for unique circumstances. Since these procedures are central to the making and teaching

of theatre, the theatre community in higher education has a significant interest in maintaining the distinction between information and values/ideas (NAST, ES 8, 58).

There are obvious links with this statement to the relationship between technology and the theatre arts classroom. As mentioned in prior summaries, concern exists with regard to the use of technology as a means vs. an end. However, this partially implies that technology is simply an information vehicle - not a method of teaching that can express theatrical values and ideas. What this summary fails to note is that theatre arts educators have the power to bring value and ideas to the content of technology. Technological products can be excellent venues for critical thinking, by virtue of the flexibility of most formats which gives users the ability to manipulate and respond directly to the content. For example, a typical CD-ROM could contain the text of a play, a section with video and or audio performances of the play where students could watch and compare acting styles, study questions, several critical analyses, and a writing area for students to take notes or write their own analysis. Obviously, this kind of program is content driven, and there are several opportunities for students to think critically within the program - the critical factor is not necessarily the technology itself, but the content of that technology and its power to bring value and ideas to theatre arts students. This thesis will explore whether or not this kind of program is typical of what is being produced by software developers.

The remainder of the summary is a discussion surrounding the value of theatre arts in general within society, and the concept of value and ideas relative to time, work, expertise, and leadership - and technology. Advancing technological capabilities can also influence evolving values and ideas about the relationship between work and time. "The fact that some technologies do save time can produce values and ideas linking the saving of time to achievement or progress" (NAST, ES 8, 59). The work/time connection can exert a

powerful influence on values and ideas about education in the arts disciplines, and general arts development. NAST considers the problems of using technology while simultaneously maintaining a values system. Of concern to NAST is the current conflict over values and ideas which is exacerbated by an array of technical possibilities. "Often these technologies and techniques cause controversy themselves, as values and ideas about their use in various circumstances are hotly contested" (NAST, ES 8, 60). In general, these discussions, while interesting, are so full of rhetoric and speculation that readers will perhaps wonder what they are supposed to take away for discussion and implementation at their own institutions. The vagueness of this summary in particular makes it difficult for readers to know what guidelines regarding values and ideas are important to NAST, and subsequently, their institution.

The biggest problem with this summary for both readers and this thesis discussion, is that the terms value and ideas are not defined. The definition of the word "value" can be very personal, as each of us has a criterion for determining what is valuable to us. The term "ideas" needs perhaps even more clarification as it can mean different things in different situations. This is an area this thesis attempts to address by providing a set of criteria, or a common language, from which theatre arts educators can make judgments about the use of technology in their classroom. Certainly, personal opinion should and probably does play a role in this summary discussion, and within the thesis criteria. NAST may be attempting to make that point by not defining the terms, however, without guidelines, it is difficult to find the relevance for theatre arts educators as a whole. At the end of the summary there is some relief as the issue of vagueness in the summary is addressed and NAST states that theatre arts educators should become more involved in the development of evaluation techniques for their curriculum, and in the creation of curricula that helps students understand the notion of idea formulation and values development.

Multicultural concerns, the importance of theatre study, interdisciplinary study, professional education and training, technology, and theatre values - these are the significant issues being discussed among collegiate theatre arts institutes. While these issues are designed for discussion at the college level, to a great extent, they are also representative of the issues being discussed within K-12 arts education. The review and analysis of NSAE guidelines that follows reveals this commonality.

NSAE

In March, 1994, new federal legislation entitled *Goals 2000: Educate America Act*, was signed into law. Passage of this legislation acknowledges the arts as a core subject, elevating it to the level of English, math, science, language, history, civics and government, and geography. NSAE believes that the importance of this legislation is felt across all levels of arts education, from kindergarten through post-graduate, as:

The arts have been an inseparable part of the human journey; indeed, we depend on the arts to carry us toward the fullness of our humanity. We value them for themselves, and because we do, we believe knowing and practicing them is fundamental to the healthy development of our children's minds and spirits. That is why, in any civilization - ours included - the arts are inseparable from the very meaning of the term "education." We know from long experience that *no one can claim to be truly educated who lacks basic knowledge and skills in the arts* (NSAE, 5).

The Standards identify the knowledge and skills children must possess in the arts - theatre, dance, music and visual arts specifically, and maintain that "a mere nodding acquaintance with the arts is not enough to sustain our children's interest or involvement in them" (NSAE, 6). Rather, the Standards advocate active participation in the arts through education, not just as passive members of the audience.

The Standards for arts education are valuable and important for two fundamental reasons: (1) they help define what a good education in the arts should encompass - “a thorough grounding in a basic body of knowledge and the skills required both to make sense and to make use of each of the arts disciplines including the intellectual tools to make qualitative judgments about artistic products and expression” (NSAE, 12) and (2) they insist that those adopting the standards for the arts understand that they are “taking a stand for rigor, informed by a clear intent” (NSAE, 12). The Standards also benefit students as they give them, for the first time, the ability to assess their own work. “They affirm that discipline and rigor are the road to achievement. And they state emphatically that all these things can in some way be measured - if not on a numerical scale, then by informed critical judgment” (NSAE, 15).

Standards are organized by grade level: Grades K-4, Grades 5-8, and Grades 9-12. Each grade level contains its own set of Standards, appropriate for the age group, that increase in complexity with each successive grade level. Students “work toward comprehensive competence from the very beginning, preparing in the lower grades for deeper and more rigorous work each succeeding year” (NSAE, 18). The Standards are organized by arts discipline within each grade, and within each of the disciplines, the specific competencies or Standards are revealed. Fulfillment of these competencies, not only within a particular discipline but across disciplines, is an essential requirement as the Standards are interdependent, and must be studied interdependently.

There are two different types of Standards listed within each grade level that serve as a guide for student assessment in each of the competence areas:

(1) **Content Standards**

Specify what students should know and be able to do in the arts disciplines

(2) Achievement Standards

Specify the understandings and levels of achievement that students are expected to attain in the competencies, for each of the arts, at the completion of grades 4, 8, and 12.

In each Standard section, a number of achievement standards are described for each content standard. In grades 9-12, which is the level this thesis addresses, there are two levels of achievement - Proficient, and Advanced - within each arts discipline, and several standards may be noted in each of these two categories. In the grades 9-12 section, the Advanced achievement level is designed to be attained by students who have elected specialized courses in a particular arts discipline. However, all students are expected to reach and achieve the Proficient level in at least one art form (NSAE, 18).

Prior to the actual stated standards for grades 9-12, NSAE reviews the knowledge students at this grade level are generally expected have, which includes the ability to “view and construct dramatic works with a metaphorical life that embrace connotative meanings, juxtaposition, ambiguity, and varied interpretation (NSAE, 64). Additionally, NSAE believes that by performing, analyzing, creating, and critiquing dramatic performances, students will “develop a deeper understanding of personal issues and a broader world view that includes global issues” (NSAE, 64). Students at this level must also learn about representative dramatic work and its place in history. Classroom work is formalized and advanced, and students should participate in theatre, television, technology and film disciplines.

The following summarizes the content standards as required by NSAE for grades 9-12. The review of these standards provides the additional background information that is necessary in comparing and integrating NSAE and NAST criteria. This is necessary as the information in NSAE and NAST sets the groundwork for the development of the original criteria outlined in Chapter 4.

Content Standard # 1

Script writing through improvisation, writing, and refining scripts based on personal experience, heritage, imagination, literature, and history

Proficient Achievement Level

Students are able to construct scripts and collaborate with actors to refine scripts so that story and meaning are conveyed to the audience.

Advanced Achievement Level

Students are able to write theatre, film, television, or electronic media scripts in a variety of traditional and new forms that include original characters with unique dialogue that motivates action.

Content Standard # 2

Acting by developing, communicating, and sustaining characters in improvisations and formal or informal productions

Proficient Achievement Level

Students:

- a. analyze the physical, emotional, and social dimensions of characters they find in dramatic texts from assorted genres and media
- b. compare and demonstrate various classical and contemporary acting techniques and/or methods
- c. in an ensemble format, create and sustain characters that communicate with the audience

Advanced Achievement Level

Students:

- d. demonstrate artistic discipline to achieve an ensemble in rehearsal and performance
- e. create consistent characters from classical, contemporary, realistic, and non-realistic dramatic texts in informal and formal theatre, film, television, or electronic media

Content Standard # 3

Design and produce by conceptualizing and realizing artistic interpretations for informal or formal productions.

Proficient Achievement Level

Students can:

- a. explain basic physical properties of the technical aspects of theatre, i.e. lighting, color, make-up
- b. analyze a variety of dramatic texts from cultural and historical perspectives to determine production requirements

- c. develop designs that use visual and aural elements to convey environments that clearly support text
- d. apply technical knowledge and skills to collaboratively and safely create functional scenery, properties, lighting, sound, costumes, and makeup
- e. design coherent stage management, promotional, and business plans

Advanced Achievement Level

Students:

- f. explain the impact of scientific and technological advances on set light, sound and costume design and implementation for theatre, film, television, and electronic media productions
- g. collaborate with directors to develop unified production concepts that convey the metaphorical nature of the drama for informal and formal theatre, film, television, or electronic media productions
- h. safely construct and efficiently operate technical aspects of theatre, film, television, or electronic media productions
- i. create and reliably implement production schedules, stage management plans, promotional ideas, and business and front of house procedures for informal and formal theatre, film, television, or electronic media productions
- j. design coherent stage management, promotional, and business plans

Content Standard #4

Directing by interpreting dramatic texts and organizing and conducting rehearsals for formal or informal productions.

Proficient Achievement Level

Students:

- a. develop multiple interpretations, visual and aural production choices for scripts and production ideas, and choose the most interesting ones
- b. justify selections of text, interpretation, and visual and aural artistic choices
- c. effectively communicate directorial choices to a small ensemble for improvised or scripted scenes

Advanced Achievement Level

Students:

- d. explain and compare roles and interrelated responsibilities of the various personnel involved in theatre, film, television, or electronic media productions
- e. collaborate with designers and actors to develop aesthetically unified production concepts for informal or formal theatre, film, television, or electronic media productions
- f. conduct auditions, cast, direct scenes, and conduct production meetings

Content Standard # 5

Researching by evaluating and synthesizing cultural and historical information to support artistic choices

Proficient Achievement Level

Students can identify and research cultural, historical, and symbolic clues in dramatic texts, and evaluate the validity and practicality of the information to assist in making artistic choices for informal and formal production.

Advanced Achievement Level

Students can research and describe appropriate historical production designs, techniques, and performances from various cultures to assist in making artistic choices for informal and formal theatre, film, television, or electronic media productions.

Content Standard #6

Comparing and integrating art forms by analyzing traditional theatre, dance, music, visual arts, and new art forms.

Proficient Achievement Level

Students:

- a. describe and compare the basic nature, materials, elements, and means of communicating in theatre, dramatic media, musical theatre, dance, music, and the visual arts
- b. determine how the non-dramatic art forms are modified to enhance the expression of ideas and emotions in theatre
- c. illustrate the integration of several arts media via informal presentations

Advanced Achievement Level

Students:

- d. compare the interpretive and expressive natures of several art forms in a specific culture or historic period

- e. compare the unique interpretive and expressive natures and aesthetic qualities of traditional arts from various cultures and historical periods with contemporary new art forms
- f. integrate several arts and/or media in theatre, film, television, or electronic media productions

Content Standard #7

Analyzing, critiquing, and constructing meanings from informal and formal theatre, film, television, and electronic media productions.

Proficient Achievement Level

Students:

- a. construct social meanings from informal and formal productions and from dramatic performances from a variety of cultures and historical periods, and relate these to current personal, national, and international issues
- b. articulate and justify personal aesthetic criteria for critiquing dramatic texts and events that compare perceived artistic intent with the final aesthetic achievement
- c. analyze and critique the whole and the parts of dramatic performances, taking into account the context, and constructively suggest alternative artistic choices
- d. constructively evaluate their own and others' collaborative efforts and artistic choices in informal and formal productions

Advanced Achievement Level

Students:

- e. construct personal meanings from nontraditional dramatic performances
- f. analyze, compare, and evaluate differing critiques of the same dramatic texts and performances
- g. critique several dramatic works in terms of other aesthetic philosophies (such as the underlying ethos of Greek drama, French classicism with its unities of time and place, Shakespeare and romantic forms, Indian classical drama, Japanese kabuki, and others)
- h. analyze and evaluate critical comments about personal dramatic work explaining which points are most appropriate to inform further development of the work

Content Standard #8

Understanding context by analyzing the role of theatre, film, television, and electronic media in the past and the present

Proficient Achievement Level

Students:

- a. compare how similar themes are treated in drama from various cultures and historical periods, illustrate with informal performances, and discuss how theatre can reveal universal concepts
- b. identify and compare the lives, works, and influence of representative theatre artists in various cultures and historical periods
- c. identify cultural and historical sources of American theatre and musical theatre
- d. analyze the effect of their own cultural experiences on their dramatic work

Advanced Achievement Level

Students:

- e. analyze the social and aesthetic impact of underrepresented theatre and film artists
- f. analyze the relationships among cultural values, freedom of artistic expression, ethics, and artistic choices in various cultures and historical periods
- g. analyze the development of dramatic forms, production practices, and theatrical traditions across cultures and historical periods and explain influences on contemporary theatre, film, television, and electronic media productions (NSAE 64-67)

Unlike the Executive Summaries within NAST which offer more theoretical rhetoric than specific guidance for college educators, most of the Content Standards within NSAE are clear and concise and therefore readily understandable and applicable for the high school theatre arts educator. The clear goals within NSAE's Content Standards also simplify the task of examining and analyzing them as potential criteria for this thesis.

The clear intent of the above mentioned standards makes it easy for this thesis to explore them as possible criteria for assessing technology in the theatre arts classroom.

Educators can certainly use technology to help them fulfill Standard #1 - script writing, however, the applications are not as dramatic as they are for other standards. A few programs, such as *Scriptor*, take users through the process of putting a script together in various ways. Script writing programs and basic word processing would be the most useful tools for educators and students in meeting these mandates, as they help facilitate the script writing process. However educators can be just as successful in meeting the mandates if their students utilize the more traditional tools - pencil and paper.

More traditional means are also called for in fulfilling Content Standard #4 which focuses on directing. While the development of multiple dramatic interpretations, as stated in 4a, is something that could certainly be aided with visual technology, such as videos or CD-ROM, and the initial script analysis as well as the production duties could be aided with the use of basic word-processing, the majority of the mandates simply require personal interaction between the director and the actor.

Technology can potentially help educators meet several of the acting mandates of Standard #2 as both Proficient and Advanced levels require knowledge of multiple acting methods and the ability to analyze characters from various genres. Here technology, in the form of watching various videos could help educators, and is already a common practice in many classrooms. However, it can also be accomplished by using CD-ROM technology where several performances of a particular script, reflecting various acting methods, could be viewed in one location. Additionally, CD-ROM random-access capabilities also save time by allowing users to skip directly from scene to scene without waiting for a tape to rewind.

Content Standards #5, #7 and #8 also might be filled with the help of CD-ROM and other technology. These standards require research, analysis and comparison of various themes and issues in cultural and historical terms, which again could be accomplished by

viewing performance examples, as well as by studying text and historical information. The capability to research, analyze and compare cultural and historical theatre exists with CD-ROM and Hypercard; however, educators are at the mercy of designers and marketers who determine the content of those programs. Therefore, educators wishing to use CD-ROM technology must ensure that the material they use in their curricula matches the content of the programs on the market - which may be more of a problem than a help to some educators. Additionally, while some CD-ROM programs do offer several performances of a particular script, i.e. Macbeth, many CD-ROM programs contain only one, if any, video performances, i.e. The Crucible, Twelfth Night. Users could switch between CD-ROM programs to see different acting techniques, but that is not necessarily preferable to switching videos for television viewing - and the video medium is much less expensive than the CD-ROM medium. Hypercard offers perhaps a better opportunity for educators fulfilling these standards, as they could use Hypercard technology to create their own program reflecting a particular curricula unit. This method, however, requires some technical knowledge, and a considerable amount of development and creation time before a program would be ready for the classroom, and the visual element is also missing.

Content Standards #3 and #6 are more complex and vague, as they possess mandates that are not necessarily part of a typical high school, or even college level theatre arts program. The complexity of these standards may intimidate educators, as they require a good deal of teacher knowledge, skill, organization and creativity in their implementation within existing curricula. However, the mandates within these standards represent an opportunity for technology to provide solutions where currently there may be none.

Content Standard #3 calls for students to obtain knowledge in the technical aspects of theatre - i.e. lighting, sound, set design, and experience in collaborating with directors to develop and produce production concepts. These mandates require a significant amount of

technical theatre knowledge which a theatre arts educator may or may not possess. For example, it is not uncommon for a high school theatre to hire outside lighting and sound designers and operators for their productions as theatre arts educators may not have the knowledge or the time to fulfill these tasks. Additionally, the likelihood that all students in a particular high school will have the hands-on experience with set design, make-up, etc., by the time they graduate, is not realistic. A high school may only produce one show a year, which means that only one opportunity exists per year for students to learn, design, construct, and apply their knowledge of technical theatre. This problem can be aided by the use of technology as current technological capabilities in multimedia, Hypercard and computer-aided design can provide students with a way to produce their own show designs on computer. One such program in existence, *Virtus Walk Through*, provides users with an empty stage, furniture, props, and the ability to move "actors" around the screen in various positions. While the technology in this particular program does not contain all of the current capabilities, the implications are evident in more sophisticated programs that are typically used by designers, such as architects, to create 3-D renderings complete with lighting, furniture, people and props, which allow them to provide realistic interpretations of their designs for clients. Likewise, theatre arts students could utilize the same technology to plan, create and run their own show designs.

Content Standard #6 requires students to not only to study and compare various art forms i.e. dance, theatre, art media, etc., but integrate them into informal, and for the advanced student, formal presentations via theatre, film, television or electronic media. To fulfill the mandates in this standard, educators must have or obtain considerable knowledge in the different art forms, as well as new art forms. Like the theatre arts teacher who may lack proficiency in lighting or sound design, some theatre arts teachers may lack sufficient knowledge in other art forms. This is not uncommon, as some high schools hire

professionals in each of the major art forms - theatre, music, art, and dance. In an effort to fulfill this mandate, some educators may be forced to research and store a large amount of historical and cultural data, visuals, and other relevant information, and create a way to incorporate it into their curriculum that is interesting to their students. Here, technology could assist educators in creating curricula not previously in existence. Two of the more obvious ways is through software purchases, and database creation. There are many CD-ROM programs on the market that reflect various historical and cultural perspectives of various art forms, such as Microsoft's *Musical Instruments*, *Cinemia '95*, and *Fine Artist* programs. Utilizing these kinds of visual and informational programs, coupled with a teachers' own research, the mandates in standard #6 could be fulfilled. As of yet, no software program exists that focuses on interdisciplinary study from a cultural and historical basis. The second way technology can aid educators in fulfilling these mandates is via Hypercard technology. Utilizing Hypercard, educators could create their own databases of information, and cross reference that information to suit their specific curriculum. The only thing missing is the visual, which would have to be provided via live performance, pictures, video, or CD-ROM. Additionally, on-line video-conferencing or guest lectures and demonstrations could be of assistance and are becoming more common place in high schools. And lastly, in the same way educators could use Hypercard to create their class presentations, students could use Hypercard to fulfill mandate #6 c & f, which call for illustration of their interdisciplinary knowledge via formal and electronic media productions. Of course, students also have the ability to create formal presentations with more sophisticated forms of multimedia, such as *Macromind Director*. However, students using programs like this must have a high level of technical interest and prowess.

Script writing, acting, technical design and production, directing, historical and cultural research, interdisciplinary study, and production analysis - these are the theatre arts

skills identified by NSAE as crucial to a high school education. These standards present interesting, diverse and thorough mandates for high school educators. However, their greatest drawback is that they also invite one to question the ability of educators to meet them in a high school environment as they require tremendous resources - financial, technical, organizational - as well as participation and energy from teachers, administrators and students.

Chapter 4: Assessing the Technology and Criteria Development

Determining criteria based solely on NAST and NSAE documentation is accomplished by careful analysis of each document to uncover major areas of importance and concern. Areas common to both NSAE and NAST documentation indicate a significant level of importance within the entire theatrical educational system, as these organizations produce materials that are received, and presumably read, by a wide cross-section of the high school and collegiate community. While NSAE criteria are carefully and distinctly enumerated and NAST criteria is more expository, areas of commonality are clear. They are:

- (1) Cultural Perspective
- (2) Interdisciplinary Study
- (3) Theatre-as-Center

While Cultural Perspective, Interdisciplinary Study, and Theatre-as-Center represent the major areas of interest and concern for the documents analyzed in this thesis, the broadness of each area makes for a somewhat vague criteria upon which to measure the benefits of technology in the theatre classroom. This is largely due to the wide span of education discussed within these documents - ninth grade through college - and the general, often nebulous nature of the NAST document which makes generating specific criteria, common to both NSAE and NAST documents, difficult. Additionally, the evaluation of the

technology itself and its ability to assist the theatre arts educator in fulfilling each specific criterion is a crucial and missing element in a criteria based solely on NSAE/NAST thought. To compensate, each criterion contains a section that raises more specific and detailed questions regarding the use of technology, thus bringing greater focus to each criteria and the assessment in general.

Cultural Perspectives

Within NAST documentation, concern for cultural awareness is evident in several Executive Summaries. In Executive Summary 2, NAST contends that American society has consciously assigned the responsibility for cultural development to the individual rather than the nation. Therefore, cultural development, both in terms of personal heritage and artistic development, is based on an individual's own initiative and interest, and is not promoted or valued by the nation as a whole. NAST's belief is that by not placing a national value on obtaining cultural perspective, both in terms of heritage and the arts, we devalue culture, and thus the arts.

NSAE also brings up the importance of cultural perspectives in multiple areas. In Script Development (Content Standard 1), NSAE challenges students to develop original scripts and refine existing and original scripts based on personal experience and heritage. By doing this, NSAE presumably hopes to introduce young performers to the intricacies and detail of heritage. In the Design and Production standard (Content Standard 3), NSAE suggest that students need to develop the ability to analyze a variety of dramatic texts from cultural and historical perspectives to determine production requirements, i.e. what kind of lighting is appropriate, how costumes should be worn, and the aesthetic of properties and sets. Applying heritage in theatrical production is the main focus of Content Standard 5, which deals with research and analysis of cultural and historical information. This kind of learning helps students develop skills that helps them understand the cultural and historical

context of plays they chose to direct. With this knowledge, they are better able to guide actors and designers, as they have a good working knowledge of the world of their chosen play, and the heritage of the characters within that play. Content Standard 7 requires students to construct social meanings from both informal and formal productions and from dramatic performances from a variety of cultures and historical periods. Additionally, NSAE asks students to relate these ideas to current personal, national, and international issues. This standard requires a rather sophisticated ability to research, analyze and apply cultural and historical information that may or may not exist at the high school level. However, the point is clear - an understanding of various cultures and heritages is imperative for the student fulfilling NSAE standards in the theatre arts.

The information discussed above is distilled into specific components for the Cultural Perspective criteria in order to be readily managed within this thesis and by others in the educational field. The following represents three criteria upon which technology can be evaluated for its ability to fulfill Cultural Perspective criteria in the theatre arts classroom:

1. Educators must be able to familiarize students with the contexts in which theatre and theatre education can take place on a cultural level.
2. Students must be able to analyze dramatic texts from cultural and historical perspectives.
3. Students must be able to research text and characters by evaluating and synthesizing historical and cultural information that support artistic choices.

The most significant problem with the Cultural Perspective criterion is that it lacks specifics as to how the educator should familiarize students with cultural contexts in theatre and theatre education. Assuming that the main vehicle for delivering the curricula is technology and not a live performance, this criterion should also specify that the technology employed should familiarize students with cultural contexts for theatre and theatre education both with text and visual examples and should include several different examples in an

effort to represent various cultures. Based on the information contained in Chapter 2, various technological platforms could easily fulfill this criterion, from the VCR, to CD-ROM and Hypercard.

Interdisciplinary Study

Directly and indirectly, NAST continually refers to the importance of interdisciplinary study within a theatre arts education. Executive Summary 4 specifically discusses the importance of educating students not only about all crafts within theatre - i.e. acting, directing, lighting - but also about other areas of artistic study in general - i.e. dance, music and visual arts. NAST pushes for educators to develop curricula which will aid in student understanding and support of the intricate interrelationships among various segments of the theatre profession and broaden their understanding of the relationship of theatre to other areas in the arts. Additionally, NAST firmly backs educators who make a conscious attempt to develop opportunities for practice in integrating knowledge and skills from more than one discipline and in developing more opportunities for work that is collaborative across theatre disciplines (NAST, ES 4). NAST's deep conviction lies in their apparent belief in the power of interdisciplinary study to strengthen a student's knowledge and skill base within all of the arts.

NSAE is also very interested in the promotion of interdisciplinary study as is evidenced in Content Standard 3 and 4 which require student exploration within the full realm of theatre arts study and across arts disciplines. "Correlation, integration, and similar approaches to learning are first of all a matter of knowledge and competence within each of the arts disciplines themselves, which must be maintained in their full integrity" (NSAE, 13). Furthermore, students, under NSAE guidelines, are able to describe and compare the basic nature of other artists - dancers, musicians, painters etc. - and do so across cultures. The emphasis on interdisciplinary study both within theatre and other artistic study

indicates NSAE's strong desire to saturate students with the entire language of the arts. By doing so, NSAE is attempting to produce a student who not only excels in a particular area of theatre arts, but also understands the interrelationships within theatre arts and related disciplines. Perhaps an underlying motive is that a more complete background in the arts as a whole will generate greater support from artists toward each other.

As in the section on Cultural Perspective, the information discussed above needs to be distilled into specific criteria in order for it to be a manageable tool with which to assess technology's ability to aid the educator in delivering an Interdisciplinary Study curriculum. Thus, the criteria for Interdisciplinary Study are as follows:

1. Educators must be able to create and apply curricula to help students understand the interrelationships among various segments of the theatre profession, specifically acting, directing, scriptwriting, costume design, set design, lighting and sound design.
2. Students must be exposed to additional performance-related media, specifically dance and music, and be able to compare and integrate them into their own theatre arts specialty, i.e. directing. The exposure must include a variety of cultural venues.

As was the case with the Cultural Perspective section, the Interdisciplinary Study criteria require additional refinement and focus in order to make them more readily understandable and useful for this thesis and for the theatre arts educator trying to assess technology in the classroom. Specifically, the criteria need to contain more detailed requirements of the technology itself. Criterion #1 must also require that the technology educate the student both with visuals and text on a variety of theatre disciplines, otherwise, the ability to compare and discuss interrelationships among various segments of the theatre profession is impaired. For example, if the teacher must utilize a different piece of software for each discussion about an area of theatre, the student would have to keep a visual picture of each discussion in her mind when learning about subsequent topics. The student loses the

ability to refer quickly to previous discussions, thus potentially lessening the impact and ability of the student to directly compare and work with different areas simultaneously. If a single program exposed a student to costumes and make-up, for example, the student would not only learn about the two crafts independently, but also she would be able to see immediately how the two are connected and perhaps utilize that information to create her own designs and ideas. Additionally, the technology, for both criteria #1 and #2, needs to be able to educate the students visually and aurally on theatre disciplines and additional performance mediums both independently and dependently. Specifically, each craft within theatre and each artistic medium, needs to be studied and valued for its own sake, as well as studied for its value and usefulness in relation to one another. A program that only allows students to work with set design and blocking as an exercise, without explaining the history, value and important aspects of each craft independently, will not adequately provide the education and understanding necessary for the student to support effectively and work with multiple media and other arts.

Theatre-as-Center

Several chapters of NSAE are concerned with theatre values, specifically, “the extent to which theatre is valued on its own terms rather than primarily as a means to other ends has significant impact on the evolving contexts in which theatre professionals work” (NAST, 12). Executive Summary 3 and Executive Summary 8 share similar concerns regarding the conflict between the theatre-as-center vs. theatre-as-means concept. In Executive Summary 3, the main focus is on the importance of studying and practicing theatre for theatre’s sake, as opposed to studying theatre through other classroom curricula, such as English or History, or as an extracurricular course. Simply put, NAST purports that teaching theatre in conjunction with other course work does not give it the intrinsic value deserving of a core field of study. NAST also questions the role of technology in

contributing to the theatre-as-means mentality and makes the assumption that using technology to study or experience theatre immediately compromises the “means/ends considerations...in the value systems of theatre professionals” (NAST, ES 3, pg. 20). This thesis, by utilizing the concept of Theatre-as-Center as a criterion, will attempt to bring attention and some degree of resolution to that assumption. Summary 8’s concerns also surround the potential of technology to overshadow the value of a theatrical education with volumes of meaningless information (NAST 8). NAST cautions that the use of technology in the theatre arts classroom should be utilized as a means, not an end, to a theatrical education - an obvious, but legitimate, concern. As discussed in Chapter 2, Summary 8 implies that technology is simply an information vehicle - not a method of teaching that can express theatrical values and ideas. By examining technology against a Theatre-as-Center criterion, these views can be specifically addressed.

Likewise, NSAE strongly believes in the intrinsic value of individual arts programs, advocating that “they are worth learning for their own sake, providing benefits not available through any other means...we depend on the arts to carry us toward the fullness of our humanity. We value them for themselves, and because we do, we believe knowing and practicing them is fundamental to the healthy development of our children’s minds and spirits” (NSAE, 7 & 5). The nature and organization of the content standards themselves further supports NSAE’s theatre-as-center mentality, as each discipline of theatre and the arts in general requires in-depth study and demands a high level of achievement among all students.

Both institutions bring attention to the need for students to learn not only about theatrical values and ideas from their teachers, but also to have the opportunity to explore their own ideas and the chance to develop their own set of values about theatre and performance.

Following are the specific criteria for Theatre-as-Center:

1. Teachers must develop and utilize curricula that are specifically designed for the theatre arts student.
2. Teachers must be able to offer venues for student exploration and expression of their own values and ideas regarding theatre arts. Possible venues might include script development and writing, directing, and performance.

Further detail must be added to these NAST/NSAE based criteria that clarifies the role of technology. Specifically, the criteria need to clearly indicate that the software or technology must be content rather than just technology driven. This can be determined by asking several questions of the technology. Is the program merely a theatrical literature review, suitable for other courses of study, or is the basis of the program particularly suited for the theatre arts classroom by virtue of its focus on particular areas of theatre? Does the technology overshadow the content of the program with overbearing emphasis on colorful graphics, large - but not necessarily relevant - databases, stunning visuals or games? Is the teacher also at the center of the program, able to provide input and information, or is she overshadowed by the gizmos and gadgets of the technology? Similarly, does opportunity exist for students to investigate and explore their own values and ideas, or are they trapped within the confines of a non-linear technology? Can the teacher learn the program easily and act as facilitator of the information, or is the program so complex that her focus is shifted to the technology rather than the content? Additionally, the inherent theatricality of the program should also be considered. Just as the English teacher should not teach with a textbook containing grammatical or structural errors, the Theatre Arts teacher should not teach with technology that does not use the basic theatrical elements effectively. These issues surrounding technology's role in promoting or overshadowing content must be included in the Theatre-as-Center criteria in order to provide a complete and accurate assessment of technologies role in the theatre classroom.

The following reiterates the three criteria, Cultural Perspective, Interdisciplinary Study, and Theatre-as-Center and reflects the additional details that followed the discussion of each criteria.

Cultural Perspectives

1. Educators must be able to familiarize students with the contexts in which theatre and theatre education can take place on a cultural level.
2. Students must be able to analyze dramatic texts from cultural and historical perspectives.
3. Students must be able to research text and characters by evaluating and synthesizing historical and cultural information that support artistic choices.
4. The technology utilized in fulfilling criterion 1-3 must provide both visual and textual examples.

Interdisciplinary Study

1. Educators must be able to create and apply curricula to help students understand the interrelationships among various segments of the theatre profession, specifically acting, directing, script writing, costume design, set design, lighting and sound design.
 - A. The technology must include at least two theatre disciplines, and the content must contain both visual and textual examples.
 - B. Each discipline must be studied both independently and dependently.
2. Students must be exposed to additional performance related media, specifically dance and music, with both visuals, sound and text, and be able to compare and integrate them into their own theatre arts specialty, i.e. directing.
 - A. The exposure must include at least two related fine arts mediums.
 - B. Each medium must be studied both independently and dependently.

Theatre-as-Center

1. Teachers must be able to offer venues for student exploration and expression of their own values and ideas regarding theatre arts. Possible venues might include script development and writing, directing, and performance.
2. The technology utilized must be specifically designed for use in the theatre arts classroom, and the content must focus on activities surrounding

theatre or the arts in general.

3. The technology should act as a support system for the theatre arts teacher and not as a replacement for curricula and lectures. The technology should neither compromise the content of the program or the abilities of a teacher with average technical experience.
4. The technology should exhibit the use of theatrical values in its design and/or delivery through at least two theatrical elements (i.e. character roles, lighting design, sound, directing, etc). These elements should contain a basic level of sophistication in their delivery.

Assessing the Technology

The Crucible is designed primarily for the theatre arts classroom and thus easily addresses several criteria, especially the components within the Theatre-as-Center criterion. Specifically, the program provides the opportunity for students to express their own values and ideas within the extensive research areas, such as “17th Century” and the “1950’s”, and in the text of the play itself. In “17th Century” and the “1950’s”, students can obtain in-depth knowledge about both the world of the play and context in which it was written. When analyzing the text of the play, for directing purposes for example, students can search for specific information in the text, such as the number of references to heaven and hell, and write their own thoughts in the margins based on personal viewpoint and on information gleaned from the above mentioned research chapters. Within “The Play”, the QuickTime rehearsal digital video of Act Three again provides the opportunity for students to express their own values and ideas by studying acting techniques and methods for this particular production and relaying their opinions via group discussions orchestrated by the teacher, or through individual analysis.

Through one of the themes of the play, condemnation of a culture, educators familiarize students with contexts in which theatre and theatre education can take place on a cultural level, and thus begins to address the Cultural Perspective criterion. Fulfilling the second and third criteria within Cultural Perspectives is easily accomplished as The

Crucible provides a complete cultural and historical perspective, as well as comprehensive research material on life in 17th century England and the culture of the Salem witches. The cultural and historical background information provides the basis for student understanding of existing artistic choices, as well as the development of their own artistic choices as director, actor, or critic. And finally, The Crucible is successful in fulfilling Criterion Four within Cultural Perspectives as the program contains QuickTime rehearsal digital video, as well as scripts in both computer and hardcopy format.

While the program is complete enough to be presented with minimal teacher involvement, it also is structured such that teachers can elect to use as many or as few sections as they deem necessary for their particular lesson plan. Additionally, the program is designed so that teachers and students can select the level of complexity that is relevant for them and go directly to the appropriate section. The more sophisticated the teacher is in both knowledge of the text and knowledge of the technology, the deeper she can get into the program to manipulate information and develop lesson plans. Less knowledgeable teachers can simply let the program run itself and supplement with lecture.

“The Play” also demonstrates an area where the program uses many theatrical values in its design. Here, the program adapts special theatrical lighting, costumes and set designs, and students can witness various character development and directorial choices within the digital video rehearsal of Act Three. The theatrical values within this section and throughout the program reflect thought, knowledge and understanding of craft.

Addressing the Interdisciplinary Study criterion is more of a challenge, as the focus of The Crucible is a dramatic play. Certainly, the program allows for students to better understand the interrelationship among different theatrical areas, such as acting, directing, costume, lighting and set design. Specifically, all of these elements can be examined both independently and dependently within the QuickTime rehearsal digital video as it provides

ample opportunity for students to review acting and directing techniques as well as design choices. Here, teachers can facilitate discussion in their classroom about the choices both actors, directors, and designers make in creating their production. The digital rehearsal video provides visual support to Interdisciplinary Study, while the text of the play allows students to analyze the language and script development of the play, thus adding another layer of interdisciplinary study to the program.

As mentioned, The Crucible does not provide exposure to additional performance-related media for purposes of interdisciplinary study.

The historical and cultural nature of The Time, Life and Works of Shakespeare gives it the ability to successfully meet some criteria within Theatre-as-Center, Interdisciplinary Study, and Cultural Perspective. However, the obvious absence of full motion digital video and thus any acting, directing and design examples, via digital video or still photographs, as well as the absence of any of Shakespeare's dramatic text, means that the program is also unable to address many criteria within this study.

Fulfilling the Cultural Perspective criteria is partially accomplished via the specific details of the life and times of Shakespeare which familiarizes students with Elizabethan culture, and gives them the ability analyze Shakespeare's text from a cultural and historical perspective. Specifically, students researching the Elizabethan culture and populous can use that knowledge to analyze Shakespearean text, or for their own character development and/or directing work. The only problem, of course, is that none of Shakespeare's text exists within the confines of the program. Obviously, obtaining text is not difficult. However, the absence of the text in the program is an unnecessary nuisance as so much of the indexing section contains information that has nothing to do with the life and times of William Shakespeare. The disc space would have been better served with the addition of all of Shakespeare's texts in both versions. Lastly, several sections of the program

strongly emphasize the evolution of Shakespeare's language. This knowledge, when applied to the context of a Shakespearean play, provides students with valuable information about classical acting techniques and the unique use of language in Shakespearean drama, thus giving students even greater ability to develop historically and culturally accurate characters.

Interdisciplinary Study criteria are addressed in the comprehensive reference section in Index, which allows students to read and see examples of art, music, history, and literature from Shakespeare's time. The additional reference material, encompassing all major events in art, music, history, literature, world history, US history, and more, allow students to view, compare and synthesize art forms. Although students cannot pull this interdisciplinary material together into their own format within the software program, they can learn about it within the program through multiple visual and text examples.

The program fails, however, at adequately providing educators with the ability to study the interrelationships among various aspects of theatre. The absence of any full motion digital video is partially to blame as students are unable to see any type of Shakespeare performance or rehearsal. As mentioned, the Index does a good job of providing related fine art visual and text examples, and some design elements - such as costumes and furniture design - could be identified as areas of theatre to be studied. However, too few specific areas of theatre are identified, and the ones that are identified, do not exist in a format that is conducive to interdisciplinary study.

Since the program focuses on a playwright and actor, it obviously meets the first criteria in Theatre-as-Center which requires teachers to utilize technology that is specific to theatre arts study. However, The Time, Life and Works of Shakespeare offers little, if any, opportunity for student exploration and expression of theatrical values. The major reason for this is the lack of Shakespearean text, and the lack of digital video performance

or rehearsal - both of which are necessary when students need to analyze performance and distill their own set of values and beliefs regarding performance and text. Lack of text and performance or rehearsal within the program also means that this particular technology is not in any danger of replacing a teacher's curricula and lectures. Actually, the program as it stands necessitates a great deal of teacher involvement in order to tell Shakespeare's complete story. The technology itself is not responsible for the lack of innovation and flexibility within the program. Rather, the content of the program, as created by the designers, is responsible for the lack of information, flexibility, and spark. The lack of these elements also means that the theatrical values within this program rate quite low, and not representative of anything particularly "theatrical" at all.

From the same publisher as The Time, Life and Works of Shakespeare, Shakespeare's Theatre is identical in format and fulfills the same criteria noted above, with a little more focus on interdisciplinary study. This is attributed to the software's additional concentration on the specifics of Elizabethan theatre, including detailed information about the Globe, actors and shareholders within Shakespeare's company. This concentration provides ample opportunity for a theatre arts educator to bring attention to the inter-relationship between several theatre arts disciplines, such as acting and set design.

The same concerns and problems plaguing The Time, Life and Works of Shakespeare also affect Shakespeare's Theatre. These include the absence of performance and script, the lack of theatricality within the program.

As noted in the Technology Review, The Complete Works of Shakespeare is beneficial to the degree that it contains all of Shakespeare's works in a single location and gives users word processing capabilities within text documents. However, this program appears to be a clear example of using technology for technology's sake, as the benefit of reading a Shakespearean play on a screen versus reading it in hardcopy format is unclear.

The Complete Works of Shakespeare does not address any of the criterion, except perhaps Theatre-as-Center, as the program is obviously targeted at the theatre arts or English literature student. With no inherent benefit for the theatre-arts classroom, perhaps it is better viewed as simply another vehicle for students reading Shakespearean text.

Like The Time, Life and Works and Shakespeare and Shakespeare's Theatre, Shakespeare's Twelfth Night or What You Will also offers considerable historical and cultural information. As noted, the greatest problem with this program is the lack of an adequate Twelfth Night text which is given the least amount of attention in the program, as it appears in a miniscule box in the lower part of the screen and users must scroll through each screen to read the play. This lack of attention to text diminishes the value of the program when judged against the criterion.

Several sections of the program meet the Cultural Perspective criteria, including the chronology of Shakespeare's life in England and the theatrical and historical events surrounding that time, as well as the Renaissance Theatre section which carefully explains the elements of Elizabethan theatre. Specifically, this information is useful for the student analyzing one of Shakespeare's scripts for cultural and historical perspective, using that information not only for script analysis, but also as valuable support for artistic choices either as director or actor. The program does a satisfactory job of providing both visual and text examples, even though the text of the play itself is relegated to a secondary role.

The Renaissance Theatre section provides a comprehensive visual and written look at all aspects of Elizabethan theatre, pageantry, London theatre life, and costumes. Since each discipline in this section is reviewed independently, the educator can help students understand the interrelationships among several segments of theatre within the Elizabethan time period. Within this same section, students are exposed - to a lesser degree- to other performance-related mediums within the Elizabethan time period, such as pageantry and

music. Here again, students can study these other fine art forms independently, and use that information to enhance their own particular focus, i.e. directing or character development. While there are written and still visual examples within this section and throughout the program, criteria could be fulfilled more completely if the program contained a better version of the text of the play and some digital video or audio performance examples for analysis and discussion.

Clearly, this program is designed predominantly for the theatre arts classroom, and thus use of this software fulfills criteria for Theatre-as-Center. Beautifully designed with attention to historical and cultural accuracy, and well-organized and directed, the program brings life to the study of Shakespeare and quite adequately uses elements of theatre in delivering its message. The program does not, however, provide educators and students with an opportunity to express their own values and ideas about directing or character development for example, especially since there is no performance to access and the text is more of an afterthought than a malleable document. The lack of a digital performance or rehearsal digital video and a legitimate text also means that the technology is in no danger of overshadowing teacher input and direction. This program will work best when the teacher can act as facilitator of the wealth of information in the software, and guide the class thoughtfully through the program through a series of lectures and with the aid of an adequate script and some video taped performances.

The Macbeth CD-ROM program is very successful in meeting multiple criteria within the Cultural Perspective and Theatre-as-Center criterion in particular. Macbeth fulfills criteria in Cultural Perspectives in several ways. First, the program deals with a Shakespearean play and all the cultural and historical issues surrounding its performance. Additionally, the availability of three Macbeth film clips from directors with very different heritages allows students to view and analyze the different twists and consequent historical

perspectives each director brings to his version. The inclusion of three Macbeth film performances also lets students research and analyze the character and dramatic choices the director, actor, cinematographer, and others make within the work, and utilize that knowledge as a launching point for their own analysis. And lastly, the essays, whose topics includes Shakespeare's biography, Elizabethan and Jacobean theatre, theatre practice, and performance history, also gives students ample opportunity to delve into the culture of both Shakespeare's England and Macbeth's world.

Macbeth CD does a complete job of fulfilling Interdisciplinary Study criteria within the theatre profession. Virtually all aspects of theatre are studied, both independently and dependently, and examples of them can be seen in the film clip section of the program along with photo gallery which documents a wide variety of performance choices. Again, students can view three very different choices in acting, directing and design and see how they work together to create three very different films. Additionally, the audio performance by the Royal Shakespeare Company and the Karaoke feature offers yet another layer for character and directing analysis. Interdisciplinary Study of related art forms is a criteria not fulfilled by the Macbeth CD.

The Macbeth CD also successfully addresses all of the criteria in the Theatre-as-Center category, primarily because the content of the program is clearly designed with the theatre arts student in mind. Both the educator and student using the program, with its attention to detail, inclusion of text, multiple performances, visual and text-based historical information, would find intrinsic value in its use. Additionally, students and teachers alike have the ability to express immediately their own opinions and thoughts via electronic notebook within the text of the play. This function, coupled with the ability for students to put those values into practice by rehearsing a part or directing a scene via Karaoke, makes this program very successful in fulfilling multiple Theatre-as-Center criteria. This software

is an excellent example of maximizing the use of a particular technology, in this case CD-ROM.

Although the software is quite sophisticated in its presentation and content, the teacher with average technical experience would not encounter difficulty running the program. Educators using this program, however, should be prepared and knowledgeable not only about all aspects of the *Macbeth* story, but also about all aspects of the film productions contained in the program. Teachers who do not take the time to familiarize themselves with the text and the software program will risk being overshadowed by its flash and competence.

Several variables make the use of multimedia, and specifically, CD-ROM, an ideal tool for the theatre arts educator - one that is capable of fulfilling all of the criteria in the assessment document.

CD-ROM provides educators and developers with the flexibility, storage, and visual capabilities necessary to help foster Cultural Perspective programs within theatre arts education. Specifically, CD-ROM capabilities allow users to store volumes of images and data, a necessity in the creation of programs that need to visually and textually show cultural and historical perspectives. With CD-ROM functions, students can freely manipulate this same information as it is stored in a non-linear format that fosters exploration and research. Additionally, new telecommunications capabilities allows for real-time, multi-user conferencing of pictures, sound, graphics, and data. This capability could allow students in a theatre class in California to simultaneously discuss, research or perform a particular a scene or play with theatre class in Japan, swapping cultural and historical perspectives.

Like Cultural Perspective, Interdisciplinary Study can be accomplished with the aid of CD-ROM capability. A technological platform, in order to create curricula that helps

students completely understand the variations and affinity between and among arts disciplines, must encompass sound, graphics, digital video and data in a single location - CD-ROM accomplishes this. CD-ROM is the an excellent platform for Interdisciplinary Study for the same reasons it is ideal for cultural/historical education. Utilizing this technology, software developers could design CD-ROM programs that contain visual descriptions, data, sound, and images on all areas of theatre arts study and encapsulate them into a single program. Students using a program like this would have the capability to search for information on various arts disciplines, and compare and blend the study of art forms through their own analysis of the theatre, dance, music, and visual arts that might be contained in the program.

CD-ROM is also well suited to meeting the criteria in Theatre-as-Center for several reasons. First, the flexibility and creativity inherent in the technology make it a particularly useful platform for creating programs unique to the theatre arts classroom. Secondly, the ability of CD-ROM technology to store both digital video and still images gives developers the impetus to author programs that contain performance and character examples of various acting techniques and methods which students can study and later practice, as in Macbeth Karaoke. And finally, the non-linear format and flexibility of multimedia technology utilized in CD-ROM gives students the opportunity to design their own programs. An example would be a student-designed and directed multimedia project on the variations in character development of Richard III. Utilizing historical still images of various actors portraying the role, digital video of actors performing the role, audio from interviews with different directors of the play, and textual information gathered on reviews and critiques of various performances to design a multimedia presentation, a student has a unique venue for expressing her own values and ideas regarding the character development of Richard III. While this is certainly a major task on the students part, many multimedia programs, such

as *MacroMind Director* and *Multimedia Workshop*, are available to the consumer, and make this kind of project viable.

Three major reasons support the use of HyperCard technology as beneficial to the theatre arts educator: organization, ease of use, and flexibility. HyperCard tools give designers and users the ability to manipulate text, graphics, sound and digital video into electronic stacks of information that can be organized in many ways. Obviously, this organizational flexibility also allows for information to be assimilated in a non-linear fashion, which is beneficial for course work involving multiple, interrelated subjects. The ease of use in creating a HyperCard program is relatively unique considering the complexity of most technological applications. Thus, HyperCard can be important and useful to theatre arts educators because it represents one of the only technological venues in which educators can create their own curricula.

Utilizing HyperCard technology, as either a purchaser or developer, to fulfill the criteria for Cultural Perspective is beneficial for both the educator and student. Various examples of cultural theatre practices can be viewed on HyperCard, as can dramatic texts and historical data. However, it is important to note that large quantities of data and visuals input into one HyperCard program may pose memory problems. Therefore, large amounts of information about a particular subject may need to be put into separate HyperCard documents and viewed consecutively, rather than viewed in a single document. Educators could create a unique presentation on, for example, the different performance styles of Marat Sade, and the effect a particular culture has on the directorial choices of that performance. In this capacity, HyperCard technology allows students to become familiar with various contexts in which theatre takes place on a cultural level, provides students with the information to analyze dramatic texts from cultural and historical perspectives and lets students research text and character choices that are based on cultural and historical

influences, all in one location - and it is created by the theatre arts educator for his or her own classroom. A program of this nature could also contain relevant current events and other topics important to the theatre arts student attempting to relate material to personal, national or international issues. Furthermore, students could become involved in the creation of the curricula by designing their own HyperCard stack reflecting their own views regarding a text, or the analysis of a contemporary issue that might shape their focus towards a particular piece.

HyperCard technology, whether in existing software programs, or used as the basis for creating curricula, is also capable of fulfilling all of the criteria for Interdisciplinary Study. The organizational capabilities and flexibility of HyperCard allow for the simultaneous study of multiple arts programs via the electronic stacks, and the multimedia capabilities allow for a significant amount of data, digital video and images to be utilized. These qualities allow the educator or developer creating her own curricula in Interdisciplinary Study to include descriptions of all the arts disciplines, and provide students with the format in which to study, compare and analyze various art forms towards an understanding of their interrelationships.

And lastly, HyperCard technology is a viable tool for fulfilling the Theatre-as-Center criteria. Because HyperCard programs can be developed by consumers, theatre arts educators have the capacity to create curricula that is uniquely their own. Additionally, the latest release of HyperCard, version 2.3, contains text-to-speech capabilities in which a Apple Macintosh computer can read text from a HyperCard stack aloud. This feature would greatly benefit the student studying, for example, Rising of the Moon, by Lady Gregory: a HyperCard program designed for that play could contain the text, historical data, pictures of Irish Revolutionary activity, and the text-to-speech capabilities would allow the student to hear, learn and practice their lines with an Irish dialect. And finally,

because of its ease-of-use, flexibility, and organizational benefits, HyperCard can also be used as a student venue for electronically expressing thoughts and views in a multiple media format of their own creation.

The three major components of the World Wide Web discussed in this thesis (Web-based References, Resources, and Projects) have the potential to address the criteria more completely than any other form of technology. However, one of the Web's most powerful attributes, volumes of information and resources located in one place, is quite possibly its greatest detriment as there is little guiding the user in effectively and efficiently maneuvering within the Web. Since several companies are addressing this issue specifically for teachers, this thesis will evaluate the usefulness of the Web in fulfilling the criteria based on the assumption that the near future will bring greater assistance from outside resources for navigating through the Web.

Web-based Resources and References have the potential to help educators fulfill the Cultural Perspective criteria, as students using those tools can access information on subjects concerning cultural differences and perspectives, and they can use that information to support their own artistic choices. By accessing information on ancient Greece, for example, student-actors could gather information about the country and the culture their analysis of the world of *Antigone*, and use that information to develop a deeper analysis of the character Ismene. Furthermore, Web-based Resources and References could be useful to the student-director searching for cultural and historical information on a particular time or place in history.

Web-based Projects and Interactive Video Conferencing are two elements of the Web that can help the theatre arts educator fulfill the criteria for Interdisciplinary Study and Theatre-as-Center. Both elements invite students to explore issues globally, both literally and figuratively. A classroom Web-based Project can be worked on concurrent with a

classroom across the world, and the two can link up via Interactive Video Conferencing to plan, discuss, argue and implement ideas for a project. For example, at The Harker School in San Jose, California, students have linked up with a classroom at their sister school in Japan via Interactive Video Conferencing. Weekly, the classrooms work together on projects concerning global issues, such as the environment. These kinds of projects are not packaged for consumer purchase, rather they require inventiveness, thought, and organization among the students and educators in both locations. However, the implications for theatre arts classrooms linking up globally is both feasible and fascinating. Web-based Projects and Interactive Video Conferencing, alone or utilized together, can act as the vehicle for bringing the various segments of the arts, from different parts of the world, together. Students can watch guest speakers or performers from different parts of the world and compare, analyze and discuss the art form with their overseas class partner.

Obviously, Web-based projects can be created that are unique to the theatre arts classroom. A Web-based project can provide ample opportunity for students to study different acting techniques as they watch rehearsals or performances from across the country or across the globe. Additionally, Web-based Projects are open-ended, and are thus a suitable venue for student exploration and expression of their own values and ideas: students can link up with other students and determine their own criteria for a project within their class project. Or, students can simply use the information they obtain in a Web-based Project or through Web-based Resources and References as the impetus for developing their own theories regarding the practice of theatre arts.

Model

The research contained in this thesis - the technology review, criteria development, and technological evaluation - has uncovered knowledge that supports the supposition that many elements of technology are inherently useful to theatre arts educators and are capable

of aiding them in the fulfillment of the criteria within this assessment document. In order to fulfill the criteria in this thesis, the ideal software and/or technological platform must contain the following components: multimedia, flexibility, organizational capabilities, non-linear development format, interactivity, and significant storage capacity. These components give software programs and/or technological platforms the ability to present theatre arts curricula in a way that draws attention to cultural perspectives, promotes interdisciplinary study, and brings focus to technology-based theatre curricula. CD-ROM, HyperCard, and the Web all contain the majority if not all of these components, and represent appropriate technological platform choices for the theatre arts educator. The current crop of software for the theatre artist typically contains only a few of these components, and consequently, only fulfills a certain number of criteria. However, the market is still in its infancy and the potential is evident in products like Macbeth. Perhaps the best way for educators to meet the criteria in this assessment is to develop curricula that utilizes a combination of technology, software, and lecture to reach its goals. For example, a teacher introducing *Twelfth Night* could utilize the Twelfth Night CD-ROM program to provide her students with comprehensive background information on Elizabethan theatre, and Shakespeare's life. The same class could then read and study the text in hardcopy format, with the teacher facilitating discussion on the character development of various roles in the play. As a final project, this class could utilize the information gained from the CD-ROM program, the text, and teacher lectures, in deciding how to stage different scenes from the play in class. In this capacity, technology acts as a supplement to lecture and classroom exercises, rather than as the main catalyst for fulfilling criteria, and is thus an appropriate model for this thesis.

Chapter 5: Conclusion

While these results are a positive sign for the potential relationship between technology and education, several additional factors are involved in the relationship that question the likelihood of its future: the standard format of existing software programs, involvement of theatre arts educators, and the financial commitment from school districts.

As is obvious from the technology review, the preponderance of software programs relevant to theatre students focus on Shakespeare. While this is certainly an important topic to be studied by every theatre arts student, the market is flooded with Shakespeare CD-ROM programs. This is not to say that existing programs do not need improvements, but unless future programs reach the level of Macbeth, for example, their usefulness in the theatre arts classroom is questionable.

Additionally, attention needs to be given to the general format that exists in the current theatre arts-based programs. All of them contain some history, usually the text of the play, cultural information, some relevant pictures, and often an audio of the text. Rarely is performance and thus performance critique focused on, as it is to a degree in Macbeth and The Crucible. Developers and educators alike will benefit from exploring existing performance-based programs, such as Laurie Anderson's Puppet Motel, Voyager's A Hard Day's Night, and Peter Gabriel's Xplora 1. Each of these CD-ROM programs focuses on performance and include a full range of multimedia capabilities. They are fast-paced, highly visual, entertaining, and extremely creative performances that appeal to younger generations who tend to be technologically sophisticated and familiar with the format, i.e. MTV and entertainment CD-ROMs (Lang-Ree, Healy, Mander). Examination of the performance elements and the appeal of these programs is a next step for developers and educators wishing to tap into the brains of the information-age generation.

In order for a relationship between technology and education to succeed, the involvement of the theatre arts educator in the development and implementation of that technology is critical. If the relationship is to exist at some level in the future, educators need to be comfortable with the language of technology, and be actively involved in bringing their expertise and knowledge to development of relevant content either within their own digital curricula, or as supporters of outside vendors. An example of this kind of educator is Michael Arndt, a theatre arts educator at California Lutheran University who has developed his own curricula via HyperCard. In his program, Mr. Arndt utilizes HyperCard technology as a platform for a dramaturgy and character analysis project, and he applied the program to the rehearsal process of a piece he directed at CLU. While Mr. Arndt created the program out of his own interest and for his own classroom use, he helps the theatre arts community in general by explaining and advocating the advantages of technology in the theatre arts classroom at educational workshops. No matter how sophisticated the technology becomes, without teacher involvement, it is meaningless. The teacher must act as facilitator, coach, and mediator throughout the entire experience, and fully understand and appreciate the use of a piece of technology if it is to be at all meaningful to students.

Unfortunately, a high school theatre arts teacher can have the best intentions for being interested and involved in bringing technology to their classroom, but without support from school districts - in terms of money and structure - those intentions will not materialize. Technology is not cheap, and a decision to use it involves dedication from the school superintendent making the decision to spend the money, to the maintenance personnel installing the hardware. All must support, understand, and be actively involved with technology before they can successfully implement technology.

Technology has become entrenched in our work, school, and homes; its presence appears to be permanent. Statistical predictions support this impression: “By the first decade of the twenty-first century, two billion people (nearly a third of the world’s population) will be linked by computers. Global information technologies will give ever more power to families and individuals, allowing them to pick out information that is relevant to them” (NAST Report, 4). The question, therefore, is how theatre arts educators will choose to be involved in this relationship with technology? As facilitators? Developers? Non-users? The issue posed is not new to theatre artists who have faced the decision of whether or not to utilize new technologies throughout history. The question is really one of communication, and the evaluation of technology as an aid for the communication of theatre arts in the classroom.

The problem of creating artistic communication in an aural medium remains a pretentious spiritual and intellectual challenge, whether the instrument of expression is a piano or a computer. The problems of teaching, whether to future professionals or to the general public, remain rooted in the teacher’s search for the best combinations of content and method for a particular student or group of students, no matter whether the mode is as old as the Socratic method or as new as the interactive video disc (NAST Report, 3).

While the idea of becoming involved in technologies that are infiltrating so many elements of our life may be overwhelming, it is important to remember that these technologies are here to serve, rather than master, the theatre artist. The choice to begin, develop, and nurture this relationship lies, as always, with the theatre artist educator.

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