THE IDENTIFICATION OF RESOURCES USED TO SELECT AND IMPLEMENT INTERACTIVE MEDIA TECHNIQUES FOR TRAINING PROGRAMS

By

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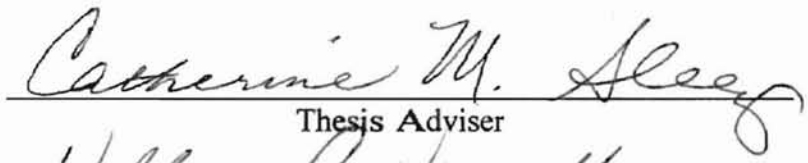

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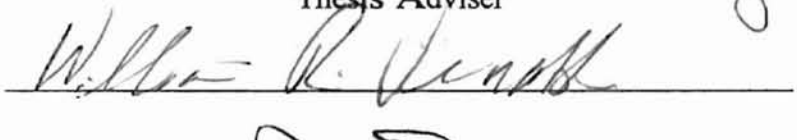

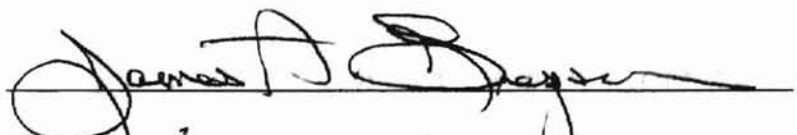

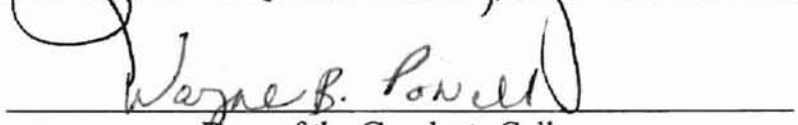

Dean of the Graduate College

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CHAPTER I

INTRODUCTION

Interactive media technology offers a variety of training options for human resource development (HRD) professionals. Interactive media is defined by the American Society for Training and Development (ASTD) (1993), as the "label for various techniques, most of which are computer-supported, for improving the delivery of information and training to the employee, both in the classroom and at the work station" (p. 4). Interactive implies the ability to combine print, voice, sound, graphics and motion (ASTD, 1993). With the growth of interactive media, many have considered that the technology may replace other training delivery methods. "By using the latest technology, HRD professionals can add value to their organizations by redefining human resource processes and procedures to change the way information resources are managed, contribute to organizational effectiveness and improve employee/client services" (Adams, 1993).

The HRD profession is comprised of a wide array of competencies in various professional specialty areas (McLagan, 1983, 1989). Although most HRD personnel are trained in only one professional specialty area, they often provide assistance in other human resource areas (Heneman & Yoder, 1979). These professionals may be asked to make decisions in areas outside of their expertise. Because of the newness of interactive media technology, HRD professionals without a specialized knowledge in that area may

have difficulty in identifying good resources for decision making. Numerous vendors are available to sell their products. However, their information may be self-serving. Further, using interactive technology effectively requires more than hardware information. It also requires information about software and about how to structure this new kind of training for effective learning. Identifying and selecting the most appropriate combination of hardware and software can be a time-consuming and frustrating experience. As Degideo (1985) pointed out, "Locating information quickly is critical and a literature search is not always feasible" (p. 3).

Problem Statement

In today's information age, HRD practitioners can find an overwhelming number of articles and books that address this topic, however, no reference is currently available that documents the use of interactive media within a geographic area and the references that HRD professionals find useful. Such a reference would be an invaluable resource for practitioners.

Purpose of the Study

The purpose of the study was to examine how ASTD members from Oklahoma-based corporations were using interactive media technology and to explore the resources these members were using to make their purchasing decisions. Further examinations of the demographics were collected including job title, job function, industry representation and organizational size. This examination of the demographic information was important to understand the job roles of the population. This study also asked respondents to

describe their use of interactive media technology including their level of involvement, length of use, training subjects offered, hardware and software choices, and the resources used to make purchasing decisions. The data collected from this study would be useful for HRD professionals.

Research Objectives

The research objectives were:

1. To find what interactive media technology HRD professionals were using.
2. To find what specific resources HRD professionals were using to make decisions related to the use of interactive media technology.

Assumptions

One key assumption of the study was that the American Society for Training and Development (ASTD), the largest human resource development association, had professional HRD members with varying levels of experience. Another key assumption was that some HRD professionals from Oklahoma-based companies were using interactive media technology. A final assumption was that the Oklahoma members who were surveyed accurately reported information.

Limitations

A limitation of this study was the use of HRD professionals from Oklahoma-based companies as the population. These professionals represented businesses, not educational institutions, private consultants or governmental agencies. Although their

responses were appropriate for the purpose of this study, their responses may not reflect resources used by the ASTD membership nationwide.

CHAPTER II

REVIEW OF LITERATURE

The use of interactive media in the delivery of training programs by human resource development (HRD) professionals is increasing in popularity (Froiland, 1993; Gayeski, 1988; Harriger, 1993). This literature review includes a discussion of the status of interactive media usage, benefits and limitations of its use, and decision-making models for selecting appropriate interactive media techniques.

Status of Interactive Media Usage

"Interactive multimedia . . . the technology that blurs the line between computers, telephones, television sets and compact disc read only memory (CD-ROM) players, has been discussed and dreamed about for more than a decade" (Naisbett, 1993, p. 1). Many reasons have been cited for the increased use of interactive media techniques for training. Stern (1990) reported that the increase was in response to changes in technology, the work force and international conditions. The American Society for Training and Development (ASTD) (1986) similarly reported that technological change requires constant updating of skills to remain competitive and because of these changes, technology is the main force now driving education and training in companies. Hudzina, Rowley and Wager (1996) also indicated three conditions that have led to increased

interest. These include the rapid development of computer technology, increasing complexity of the workplace and the need for increased work performance.

The use of interactive media in the delivery of training programs offers extraordinary opportunities. ASTD, the largest HRD international association, conducted a National HRD Executive Survey in 1993, which addressed the use of interactive media by training professionals. Survey participants were asked to report the interactive media techniques they had used in their training efforts. The techniques that have been used are shown in Figure 1. The survey results suggested that over one-third of the organizations represented in the survey had used at least one interactive media technique.

Auxiliary Support for Stand-Up Instruction
Tutorials
Electronic Job Aids
Electronic Performance Support

Figure 1: American Society of Training and Development 1993 National HRD Executive Survey Interactive Media Techniques

Another survey, the 1992 Industry Report conducted by Training cited that 37 percent of U.S. companies who employed more than 250 workers were using computers for training (Zemke, 1992). Technological change has caused many industries to consider using training techniques other than traditional classroom approaches. "As the work environment becomes more dynamic, the possibility of adequately training a worker before he or her starts a job is increasingly challenging" (McClernon & Swanson, 1995, p. 40). For example, Baxter Healthcare, the world's largest supplier of healthcare products, implemented a sophisticated interactive multimedia classroom to provide

technical training for their employees (Emery & Schubert, 1993). "Given the healthcare industry's need for precisely tuned equipment, superb maintenance is critical to Baxter's success" (McMichael, 1993, p. 5). As another example, General Accident, one of Britain's largest insurance groups, uses interactive media to train their personnel in many interpersonal skills (Boynton, Giusti, Guessford, & Laudeman, 1993). This trend is expected to continue. "The use of interactive media in the manufacturing and electronic industries will be needed more and more as the flood of technology gives rise to a perpetual set of training needs" (Froiland, 1993, p. 3).

State governments have also realized the importance of training to business operations. To attract businesses, many states offer state-funded industry-specific training programs and many of these training programs use interactive media techniques. With such training programs, state hope to entice organizations to locate or expand operations in their areas (Froiland, 1999).

Benefits and Limitations of Interactive Media Usage

An exciting aspect of the HRD profession is the growing number of training options available to improve human performance. Training delivered with the help of some form of interactive media technology is often easier to control, cheaper to deliver, more easily updated, and more responsive to industry needs (ASTD, 1986). HRD professionals who know the benefits and limitations of interactive media can assist their organizations in deciding which techniques to use.

In 1990, Krein and Maholm searched the literature for evidence that interactive media provides advantages over traditional classroom training. Of the over seventy reports they found, most involved college and high school students as subjects. Only one

study involved adults in work settings (Krein & Maholm, 1990). The findings of these studies were mixed. Krein and Maholm then conducted their own research to compare training using interactive media with traditional classroom methods. They compared comprehension of material and the length of training time. They concluded, "trainers using interactive media completed modules faster, and performed better on the final test" (p. 23).

In a similar study in 1996, Bates, Holton, and Seyler researched the literature to evaluate interactive design decisions made in the development of a computer-based instructional system. They found numerous articles with design guidelines, but most research had been conducted in formal classroom settings with subjects that were college age or younger. Few studies accessed the effectiveness of computer-based instruction for adults above college age. Even fewer studies used adults in workplace settings (Bates, Holton, and Seyler, 1996).

Many authors have identified a major benefit of using interactive media to be the improved quality of the training (Allen, 1993; Amthor, 1993; Blumenstalk, 1993; Emery & Schubert, 1993). Interactive media provides consistent delivery, self-paced learning, and more student involvement and interaction (Allen, 1993; Amthor, 1993). Interactive media training makes all students alert, since they have to interact with the system. This ensures that all students are involved in the training, which is not always achieved in the traditional training classroom. In addition, interactive media techniques can support different learning styles. Address immediate remediation for missed questions, and improve student attitudes toward computer (Krein & Maholm, 1990; Matthes, 1993; Schness, 1993). A Department of Defense study conducted in 1992 concluded that

students have better retention from interactive media training than through less interactive methods (Amthor, 1993). After conducting their own research, IBM also concluded that the more interactive the training, the more learning increases (Swiss Army, 1993).

Another benefit is the cost effectiveness of delivery. Since interactive media delivers content approximately thirty to forty percent faster than more traditional methods, employees spend less time in the classroom and more time on the job (Allen, 1993; Ogden, 1993; Bates, Holton & Seyler, 1996). Lodging and travel costs can also be eliminated. The cost of distributing the training to various locations is much less than traditional training methods (Adams, 1993; Amthor, 1993).

A final benefit of interactive media is the individualism of instruction. Employees can use an interactive media system at any time during their work schedules. With modular lessons, training can be stopped and restarted at any time. This individualized approach can make training available to employees to choose the topics they want to study, the difficulty level, and the rate of instruction (Foster, 1993).

Many other factors support the use of interactive media techniques. Interactive media provides training that ensures consistent comprehension for each student. Students are challenged to understand training content before proceeding to the next chapter. Consistent comprehension is not always achieved for each student in a traditional training classroom (Allen, 1993). "Interactive media also lays a strong foundation for ongoing support of employee performance" (Allen, 1993, p. 66). The use of interactive media training is beneficial for high turnover jobs, new product introductions, and problem area training since it can be repeated many times with little cost (Froiland, 1993; Gallagher,

1993; Keesan, 1990). Hudzina, Rowley, and Wagner (1996) similarly suggested that interactive technology . . .articulates "just-in-time training," skill enhancement and information at the time of need.

Although authors have identified benefits of interactive media, it is important to also understand the limitations of this technology. The cost of the systems may prevent many organizations from implementing interactive media techniques, however, as applications grow, costs will come down (Naisbett, 1993). Because interactive media training is often more costly to develop than traditional training, the type of training being developed and the longevity of the training program must be examined (Krein & Maholm, 1990).

Although individualized instruction was listed as a benefit, it can also be a limitation. Many organizations have implemented "quality teams" to use the expertise of their workers. This team approach may make cooperative learning more important than individualized interactive training programs.

Another limitation of interactive media technology is the availability of expertise. Many organizations that use interactive media are contracting others to do part, or all, of the production (MacNelly, 1993). Selection of an interactive media production vendor may be problematic. Typical vendors are not sufficiently familiar with interactive media tools to provide adequate advice (Amthor, 1993). Most vendors only know their products.

Yet, another limitation is the amount of time needed to implement interactive media technology. The accelerating rate of technological change makes it difficult to use interactive systems for training because of the lead-time needed to develop the systems

(Foster, 1993). In addition, the use of the technology to improve performance, "is accompanied by a growing need for guidelines directing its effective design and use" (Bates, Holton, & Seyler, 1996, p. 3). Updating interactive media systems must also be considered prior to developing the training programs. Although interactive media are not appropriate delivery vehicles in all situations, personal computer and interactive peripherals, laser videodisc, videotape, CD ROM, group response systems and touch screens are increasingly prevalent in organizations (Gayeski, 1998).

In summary, challenges and opportunities expand as the use of technology increases and the work force of the twenty-first century continues to change (Francis, 1995). Interactive multimedia technology will only begin to approach its full potential in this decade, and it is already a multi billion-dollar industry (Naisbett, 1993).

Decision-Making Techniques and Models

Using technology to its fullest moves an organization one step closer to achieving maximum quality (Harriger, 1993; Tolson, 1992). With all of the instructional media available today, deciding on which vehicle to use to deliver a training course can be nerve-racking (Blumenstalk, 1993). "Although interactive media are still surrounded by an aura of mystery, they are rapidly becoming more accessible to even small organizations" (Gayeski, 1988, p. 11).

While the choice of an appropriate medium is critical to the success of a training program, only three decision-making models could be located in the literature. Although the term "model" is used in the literature, the terms "lists" or "guides" would also seem appropriate. Although each stressed the importance of choosing a medium based on training objectives, there was little other evidence of a theoretical basis for these guides.

Blumenstalk (1993) developed the first model, shown in Figure 2 on the following page. The model contains a list of training attributes on the horizontal axis. The training attributes describe either the intended audience or the instructional strategies required to meet the training objectives. Training media are also listed. By using this model, HRD professionals can match their training attributes with the most effective training media (Blumenstalk, 1993).

The second model, developed by Gayeski (1988), is a flow chart for selecting interactive media strategies. This model, shown in Figure 3, on page 14, includes explanations for analyzing situations and recommending appropriate applications of interactive media formats. To use Gayeski's model, an HRD professional should, "choose a human performance problem and describe one action or pattern of behavior that employees are not performing, but should be performing on their job" (Gayeski, 1988, p. 11). In this model, an HRD professional would begin at the top and answer the questions presented in the diamonds. As they answer the questions and proceed through the flow chart, they would arrive at either a triangle, which presents appropriate applications for interactive media formats, or at an obtuse rectangle which represents a non-training solution. Gayeski's model, like Blumenstalk's, stressed the importance of matching interactive media techniques to training objectives.

The third model, developed by Adams Consulting Group (Adams, 1993), helps HRD professionals decide it computer-based instruction is the best vehicle for training. Like Gayeski's model, Adams' decision aid assumes that a training need has already been identified and can help an HRD professional determine if interactive media should be explored as a medium for the training course. "When considering computer-based

Training Attributes	MEDIA								
	Lecture	Video Conference	Self-Paced Text	Audiotape	On-line Help	Videotape	Computer-based Training	Interactive Video	Multimedia
Audio	√	√		√		√		√	√
Still Visuals	√	√	√			√		√	√
Full-motion Visuals	√	√				√		√	√
Animated Visuals	√								√
Tailored Answer Feedback	√	√					√	√	√
Forced Mastery Before Proceeding							√	√	√
Open Q/A Forum	√	√							
Reference Materials	√	√	√		√		√	√	√
Random Access	√	√			√		√	√	√
Frequent Updates	√	√							
Hands-on Exercises	√	√					√	√	√
Simulate a Procedure	√	√		√			√	√	√
Branch Automatically Based on Responses					√		√	√	√
Train Audience with Poor Reading Skills	√	√		√		√		√	√
Train Audience with Multiple Shifts			√	√		√	√	√	√
Dispersed Audience		√	√	√	√	√	√	√	√

Figure 2: Blumenstalk's Training Requirements Checklist

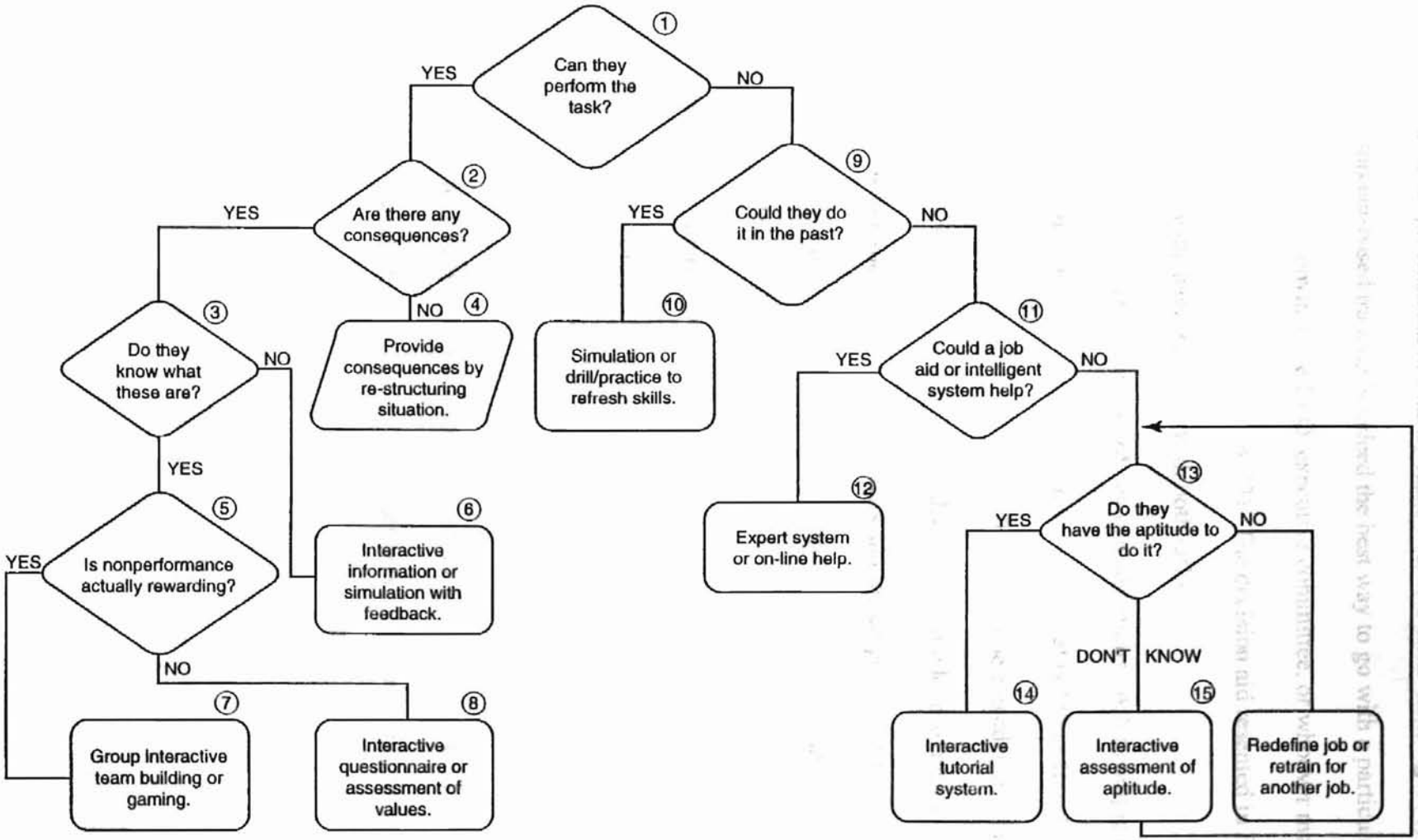

Figure 3: Gayeski's Decision Model for Interactive Strategies

training (CBT), an HRD professional ordinarily starts with two basic challenges: 1) to decide whether computer-based training is indeed the best way to go with a particular training program, and 2) to convince the CEO, executive committee, or whoever makes the decision, that CBT is best" (Adams, 1993, p. 73). The decision aid resented in Figure 4, beginning on the following page, can help with both tasks.

The decision aid summarizes a number of key considerations. After completing a point total for each consideration, add all of the points. If the total is 135 or less, CBT should not be considered. If points total 135 – 200, CBT should be considered. If total points exceed 200 points, CBT is a good bet. This decision aid model provides a structured way to look at issues involving the learners and the corporate environment. "It cannot and should not substitute for a serious cost-benefit analysis, but it can supplement one" (Adams, 1993, p. 73)

In summary, these models provide valuable information about selecting the appropriate training techniques, however, none of the models provide information on the available resources for selecting and implementing interactive media techniques. In reviewing the status, benefits, and limitations of interactive media usage in literature, it is important to find out how human resource professionals make interactive media decisions. The three models that were explored do not provide the resources for making purchasing decisions.

Summary

There is little doubt that interactive media technology provides immense opportunities to the HRD profession. According to the 1993 National HRD Executive Survey conducted by ASTD, and the 1992 industry report conducted by Training, the

COMPUTER-BASED TRAINING DECISION AID		
CONSIDERATION	INSTRUCTIONS	PTS
Number of learners.	If fewer than 50 0 50 to 100 5 More than 100 10	
Number of preferred training sites.	If learners are at One site 0 Two to five sites 5 More than five sites 10	
Distance of learners from existing training site.	If bringing the average learner to an existing training site Does not require overnight stay 0 Does require overnight stay 5 Requires many overnight stays 10	
Number of times program will be offered.	Once 0 Two to five times 3 Six to 19 times 5 20 times or more 10	
Frequency of updates.	If changes/updates will be needed Every three months or less 0 Between three and six months 5 Six months or more 10	
Development time available.	If training must be available in Less than three months 0 Three to six months 5 Six months or more 10	
Preferred learning style.	If learners prefer Group learning 0 Independent learning 10	
Preferred training schedule.	If it is more appropriate to Set training schedules 3 Allow learners to set schedules 10	
Current computer proficiency.	If learners Don't know how to use a computer and don't need a Computer for their job 0 Don't know how to use a computer and do need a Computer for their job 5 Know how to use a computer. 10	
Current learner skill level.	If learners All have the same skill level 5 Have widely varying skill levels 10	
Need for individualized remediation.	If learners probably Won't need remediation 5 will need remediation 10	
Consistency.	If consistency of instruction is Not important 0 Somewhat important 5 Very important 10	
Need for performance tracking.	If performance tracking across multiple courses or modules is Not needed 0 Desirable 5 Required 10	
	SUBTOTAL	

Figure 4: Adams Consulting Group Consideration
for Using Interactive Media

CONSIDERATION	INSTRUCTIONS		PTS
Content.	If skills are		
	Interpersonal	5	
	Technical	10	
Content already available on CBT.	If CBT program		
	Must be developed to meet requirements	0	
	Can be purchased and modified to meet requirements	5	
	Can be purchased for use without modification	10	
Management's past experience with CBT.	If past experience with CBT was		
	Not favorable	0	
	Neutral	5	
	Very Favorable	10	
General view of technology.	If management views computer technology as		
	Awful	0	
	A necessary evil	5	
	Great	10	
Budgeting scheme.	For cost comparisons, if development costs		
	Are separated from costs of delivery	0	
	Are included with delivery costs	10	
Availability of hardware at learner site.	If hardware at learner site is		
	Not available	0	
	Available but has to be upgraded	5	
	Available	10	
Cash flow.	If cash flow is		
	Slow	0	
	OK	5	
	Good	10	
Management's perception of person making recommendation.	If person making recommendation		
	Has a poor track record	0	
	Has a great track record	10	
Availability and skills of project management staff.	If staff can		
	Not manage a CBT project	0	
	Management project	10	
Availability of production hardware.	If production hardware is		
	Not available	0	
	Available but has to be upgraded	5	
	Not needed	10	
	Available	10	
Availability and knowledge of CBT design and authoring language.	If staff		
	Does not know anything about authoring	0	
	Will buy off-the-shelf CBT	5	
	Can design and author CBT	10	
Availability of hardware troubleshooters.	If troubleshooters		
	Cannot be made available	0	
	Can be made available	10	
Availability of content experts.	If content questions must be answered and experts		
	Cannot be made available	0	
	Can be made available	10	
Use of existing trainers.	If trainers now on staff		
	Will no longer be needed	0	
	Can be transferred to new positions	5	
	Can be used on CBT projects	10	
	SUBTOTAL		
	TOTAL		

Figure 4: Adams Consulting Group Consideration
for Using Interactive Media (continued)

status of interactive media usage suggested that one-third of all U.S. companies are using the technology to support their training efforts and these percentages are likely to rise. To better understand this technology, benefits and limitations need to be explored and examined. Models for deciding to use or not use interactive methods are also important to explore. HRD professionals need good information before venturing into the world of interactive media.

CHAPTER III

METHODOLOGY

The following sections outline the procedures used to complete this study. They detail the population selected, instrument developed, and data gathering and analysis procedures.

Population Selected

To receive the responses regarding the use of interactive media technology and the resources used in making informed purchasing decisions, a population of Oklahoma HRD professionals who use interactive media techniques was needed. ASTD provided an Oklahoma membership list of 252 members. Through the assistance of the coordinator of the Business and Industry Department from the Oklahoma Department of Vocational and Technical Education, the list was narrowed to the HRD professionals who were employed by business organizations. HRD professionals representing educational institutions, government agencies and private consultants were eliminated from the list. The 88 HRD professionals employed by business organizations served as the population for this study.

Instrument Developed

ASTD (1993) conducted a National HRD Executive Survey that addressed the use of interactive media for training in organizations. This survey relied on a model

(Figure 5) that identified categories of interactive media techniques. This model was created by a panel of experts based on a review of literature. This model was then revised and simplified by Ed Schroer, Vice President for Research for ASTD. This model served as the basis for the survey instrument.

Support for Stand Up Instruction - Use of interactive media support by a trainer to compliment the presentation of curriculum to trainees.
Tutorials – Use individually for each trainee. Includes compact disc read only memory (CD ROM) and compact disc interact (CDI)
Electronic Job Aids – Techniques tailored to a specific job with generic application.
Electronic Performance Support Systems (EPSS) – Use of any intersecting technologies that offer just-in-time learning tools to a person with a task or job to do. Provides on-demand access to all the resources a person needs to solve a problem, to perform a task, or to do an entire job. Includes hyper-media, interactive instruction, databases and expert systems.

Figure 5: Revised American Society of Training and Development 1993 National HRD Executive Survey Interactive Media Techniques

The survey instrument was developed and included three parts. The first part focused on demographics. It included questions about the respondent's job title, job roles and organization size.

The second part of the survey focused on interactive media usage. ASTD's model served as a basis for this part of the survey. Each respondent was asked to report the interactive media techniques that had been used for delivering training programs. Also, questions were asked about the respondents' level of experience with interactive media and the hardware and software that they used.

The third part of the survey asked respondents to list the best resources for selecting and implementing interactive media for training programs. Resource categories included

professional or amateur advice, multimedia publications, vendors, trade associations and small business organizations. An "other" category was also included to allow respondents to write in additional resources.

A pilot test of the survey was conducted with five HRD practitioners. As a result of the pilot test, necessary revisions were made to produce the final survey (Appendix A). The survey was then submitted to the Institutional Review Board at Oklahoma State University and was approved (Appendix B).

Data Gathering Procedures

Once the final survey was approved, it was mailed to the population. The survey was accompanied by a cover letter that was endorsed by ASTD (Appendix C). It emphasized the purpose of the study and the importance for completing the survey. The surveys were coded to allow for follow up. A post card was sent to each non-respondent followed by a telephone call.

The population of this study included 88 ASTD members employed by business organizations based in Oklahoma. A total of 46 surveys were completed and returned, resulting in a 52 percent response rate. According to Smith (1996), a response rate 50 percent of more, indicated a clear majority was established.

Data Analysis Procedures

Part I: Demographics – In Part I of the survey, respondents were asked to report demographic information in three key areas. These included their job title, the job

functions they performed and the size of organization they represented. As responses were returned, the data was categorized using the survey as a guide.

The job titles were recorded verbatim. After further analysis, the job titles were grouped together by key words. Exact matching titles were tallied, as well as similar key words in the titles.

The job functions listed on Part I of the survey were the ASTD competencies identified by P. McLagan (1983, 1986). These competencies were listed and defined. Respondents were asked to check the function(s) that applied to their present position. As the surveys were returned, a numerical tally of each competency was recorded.

The size of the organization was asked in Part I as well. The respondents were given a choice of four levels: 1) less than 50 employees; 2) 51-75 employees; 3) 76-100 employees; and 4) over 101 employees. As the surveys were returned the answers were tallied in each of these four levels.

Part II: Interactive Media Usage – In Part II of the survey, six questions were asked to determine the respondent's level of experience and usage of interactive media.

The first question asked respondents to select from five levels of experience. These levels included: 1) only exploratory experience; 2) have used media technology, however, do not make purchasing decisions; 3) have used media technology and recommended purchasing decisions; 4) have used media technology and made purchasing decisions; and 5) have never used media technology to date. As the responses were received, each level was tallied for its total number.

The second question in Part II of the survey offered four categories of interactive media techniques, based on the ASTD model shown in Figure 5. Respondents were

asked to select each category that they were using. Category 1 was "auxiliary support for stand-up instruction"; Category 2 was "tutorials"; Category 3 was "electronic job aids"; and Category 4 was "electronic performance support systems." The survey included a definition of each category. As responses were received, a tally was recorded for each category.

The third question asked for the length of time that the respondents had used interactive techniques. This was an open-ended question to allow respondents the freedom to answer with various lengths of time. To tally the results, responses were grouped as follows: 1) no experience/unknown; 2) less than 6 months, 3) more than 6 months to 12 months; 4) 1 year or more to 3 years; and 5) 3+ years. A numerical tally of each length of time was recorded.

The following three questions in Part II of the survey asked respondents what types of training subjects were being offered through interactive media, and what kinds of hardware and software they used. Since these were open-ended questions, each response was recorded verbatim. After further analysis, similar answers were grouped together by key words. At the end of data collection, a tally was made to determine the most recorded training subject, hardware choice and software choice.

Part III: Resources Used for Decision Making – The final two questions of the survey asked respondents to record the resource(s) they used for decision-making and to list their comments about their experience with the use of interactive media.

The first question in Part III offered five specific resource categories along with an "other" category so that they could identify additional resource(s) not listed on the

survey. The five categories were; 1) professional or amateur advice, 2) multimedia publications, 3) vendors, 4) trade associations and, 5) small business organizations. As responses were received, a tally was done for each category. The responses to the "other" category were recorded verbatim.

The last question in Part III of the survey asked for general comments from respondents. All of the responses were recorded verbatim. At the end of the data collection, these comments were compared and contrasted to determine common themes or trends.

In summary, the responses to all of the questions were recorded and tallied using the survey as a guide. The questions that offered levels, competencies, or categories were numerically tallied to identify the most popular choice(s). The open-ended questions were recorded verbatim and then grouped together by key words. By grouping similar answers together, analysis was done to determine common themes or trends. Once all responses were received, the recorded data was checked again, against the returned surveys, to ensure reliability of the recording process.

CHAPTER IV

RESULTS

This study surveyed the American Society for Training and Development (ASTD) members employed by Oklahoma-based corporations. A total of 88 members were asked to complete the survey. Part I of the survey asked for demographic information, Part II asked for the length of time and level of involvement with their use of interactive media technology, and Part III asked for the resources they had used for decision-making. A total of 46 surveys were completed and returned, resulting in a 52 percent response rate. Four surveys were returned by the business organizations indicating that the person was no longer employed with the firm.

Part I - Demographics

Industry Type and Size Represented

According to the survey results, respondents from various industries and organizational sizes were represented in this study. The industry with the largest number of respondents, a total of 13, or 28 percent of the population, was from manufacturing organizations. The other industries are included in Table I.

The seven responses in the miscellaneous category represented industries with only one representative. These industries included software, cable, architectural and various

consulting organizations. The results showed a variety of industries present in the state of Oklahoma.

TABLE I

INDUSTRIES REPRESENTED IN THE STUDY

Industry	Number of Respondents	Percent of Respondents
Manufacturing	13	28%
Oil/Gas Related Organizations	11	24%
Banking	4	95%
Utilities	4	9%
Medical	3	7%
Aerospace	2	4%
Car Rental	2	4%
Total	46	100%

Also in Part I of the survey, respondents were asked to report the size of the organization they represent. They were given a choice of four answers including, 1) less than 50 employees, 2) 51-75 employees, 3) 76-100 employees, and 4) over 101 employees. Of the completed surveys, only two marked "less than 50 employees," one marked "76-100," and the rest of the respondents, a total of forty-three, marked "101 or more." The results indicated that most respondents were from fairly large organizations.

Job Titles

The job titles were recorded verbatim and were group by key words. A total of 38 respondents provided titles and 8 individuals did not respond to this question. Although a wide variety of titles were reported, two key words, "training" and "development" were noted in a majority of titles. Seven titles included both the words "training and development," including Directors of Training and Development, Managers of Training

and Development and Specialists in Training and Development. Eighteen titles included just the word "training," and included such titles as Training Manager, Training Officer, Training Leader and Corporate Trainer. Six additional titles included just the word "development." Theses titles included Course Development Coordinator, Human Resource Development Coordinator and Organizational & Employee Development Specialist. The remaining seven titles suggested that the HRD competencies were only a part of the overall job role. With a few titles such as administrative manager, analyst/project leader, general business partner, and president, it appeared that the HR functions were only a part of their overall responsibility. A complete list of all job titles is listed in Appendix D.

Job Functions

Respondents were asked to report which ASTD competency(s) or functions, as identified by McLagan (1983, 1986), they perform on their job. These competencies were listed and defined. The most number of competencies listed on a survey was 8 and the least amount was 1. The average number of competencies recorded by the respondents was 3.3. Table II lists each ASTD human resource competency and the number of respondents. A total of 12 individuals did not answer the question. It appears that the respondents perform a wide variety of functions in their positions, with individual development and organizational development reported the most.

TABLE II

JOB COMPETENCIES REPORTED

Job Competency	Number of Respondents
Individual Development	27
Organizational Development	23
Career Development	17
Human Resource Planning	10
Organization/Job Design	10
Selection and Staffing	7
Employee Assistance	5
Human Resource Information Systems	5
Compensation/Benefits	2
Union/Labor Relations	1

Part II - Level of Involvement and Techniques Used

Respondents Level of Involvement with

Interactive Media

In Part II of the survey, respondents were asked to report their level of involvement with the use of interactive media for training programs. Five choices were offered. Table III shows the categories and the number of respondents.

In adding the first three numbers of respondents from Table III, those who have used media technology beyond exploratory experience are a total of 19. The total number of respondents for this study was 46 and 19 represents 41 percent who use interactive media technology. In review of the literature, ASTD found that 33 percent of U.S. companies were using media technology in 1993, and Training found 37 percent in

1992. This study, conducted in 1996, reported 41 percent, a slightly higher percentage of usage.

TABLE III

LEVEL OF INVOLVEMENT WITH INTERACTIVE MEDIA

Level of Experience	Number of Respondents
Have used media technology, however, do not make purchasing decisions	4
Have used media technology and recommended purchasing decisions	3
Have used media technology and make purchasing decisions	12
Only exploratory experience; have yet to use technology	12
Have never used media technology	15

Techniques Used

The next question in Part II of the survey asked respondents to choose from categories of interactive media techniques they use in their current position. These categories, based on the ASTD model, were listed and defined. Table IV shows the categories and the number of responses.

The results indicated that as the level of interactive sophistication increased the number of responses dropped. The respondents reported "Auxiliary Support for Stand-Up Instruction" as the most used technique with 23 responses and "Electronic Performance Support Systems" was the least used technique with only 7 responses. These results also indicated that most respondents were using the technology to compliment their instruction, not replace it as a form of delivery. It appears that HRD

professionals are only beginning to utilize the full potential of interactive media technology.

TABLE IV

INTERACTIVE MEDIA TECHNIQUES USED

Categories of Interactive Media Techniques	Number of Respondents
Auxiliary Support for Stand Up Instruction	23
Tutorials	16
Electronic Job Aids	9
Electronic Performance Support Systems	7
Did not respond to the question	12

Length of Use of Interactive Media

Respondents of the survey were asked to report the number of years they had been involved with interactive media. This was an open-ended question to allow the respondents the flexibility in recording the time. The responses were recorded verbatim, and at the conclusion of the study, they were grouped into categories shown on Table V.

The results, as outlined on Table V, showed the most reported category most was "No Experience," with 16 responses or 35 percent of the respondents. In adding the respondents that reported using the technology from 10+ years to less than 6 months, the total is also 16 or 35 percent. These results seem to contradict the results recorded earlier when respondents were asked about their level of involvement with interactive media technology in Table III. Those results showed that only a total of 19 respondents, or 41 percent reported using the technology beyond exploratory use. Fourteen individuals did not respond to this question.

TABLE V

LENGTH OF USE OF INTERACTIVE MEDIA

Number of Years Reported	Number of Respondents	Percentage
10+ Years	2	35% combined
7 Years	2	
6 Years	1	
12+ Months but less than 3 Years	5	
6+ months to 12 months	3	
Less than 6 Months	3	
No Experience	16	35%
Unknown or did not Respond	14	30%

Types of Training Programs Offered through Interactive Media

Respondents were asked to report the types of training programs they offered through interactive media. Respondents offered many different responses to this question and the responses were recorded verbatim. After analysis, the answers were grouped together by key words. Of the answers, the top five reported programs included safety programs, technical programs, job-specific or job skills, product and sales skills and basic computer skills. Appendix E includes a complete list of the reported training programs.

Types of Hardware

Respondents were asked to report the types of hardware they use. This question was also open-ended to allow respondents the flexibility in answering. A wide variety of hardware was recorded verbatim from the returned surveys. At the end of the study, similar responses were grouped together. The most reported hardware types were 486

Pentiums with CD-ROM, IBM and IBM compatible computers, and Sound Cards with Speakers. A complete list of responses is recorded in Appendix F.

Types of Software

Respondents were asked to report the types of software they use. Once again, this question was open-ended to allow flexibility. The responses were recorded verbatim and at the conclusion of the study, similar answers were grouped together. The most reported software types were Power Point, Lotus, Microsoft Word, Authorware and Excel. A complete list of responses is recorded in Appendix G.

Part III - Resources Used for Decision Making

Resources Reported

In Part III of the survey, respondents were asked to list the resources they have used for making purchasing decisions related to interactive media technology. A list of resources was provided, as well as an "other" category to allow flexibility for other resources that were not listed. Space was given for respondents to explain their answers. Table VI outlines the number of responses given for each resource.

As shown in Table VI, the first resource listed on the survey was "Professional or Amateur Advice." Sixteen respondents listed this resource. Many wrote in an explanation that included consulting with in-house employees (information systems groups, systems personnel, and sales representatives), friends, schoolmates, colleagues and outside specialty vendors.

TABLE VI

RESOURCES USED FOR MAKING PURCHASING DECISIONS

Resources for Decision-Making	Number of Responses
Professional and Amateur Advice	16
Multimedia Publications	6
Vendors	13
Trade Associations	12
Small Business Organizations	1
Other	See Appendix H

The second resource listed was "Multimedia Publications." Only 6 respondents indicated that they consulted with technology publications to make purchasing decisions. The responses included *MAC World, New Media, CBT Solutions and P&I Journal.*

The third resource was "Vendors." Of the 46 total respondents, 13 people chose this resource. The following vendors were listed: Gateway, Training Systems Inc. (TSI), Carlson Learning, Learning International, DDI, Wilson Learning, NUS, ITC, McGraw-Hill, CBT Systems, NETG, IBM and Red Line.

The fourth resource listed on the survey was "Trade Associations." Twelve respondents indicated that they had used information from trade associations including, ASTD, AMA, ISO certified, ISA, Lakewood, ASTM, SAL, and TAPPI.

The fifth resource was "Small Business Organizations." Only 1 person indicated that they had consulted with a small business organization at the local chamber of commerce.

The last resource was the "other" category, which allowed respondents to fill in any other resource they might have used for decision making. The only comment made was "consulting with other employees and academic institutions."

From the responses, it appeared that the population of this study used numerous resources to answer their questions about interactive media technology. The most repeated response was "Professional or Amateur Advice."

Respondents' Other Comments

The last question on the survey asked respondents if they had other comments about their experience with interactive media. Although only half of the respondents wrote in their comments, most indicated that their organizations were only getting started in interactive media and that their transition was very slow. Three respondents indicated that they were experiencing some resistance from employees to the change from traditional training methods to interactive methods. Many reported that the costs for development and maintenance of interactive media were still high. In addition, most responded that they were interested in finding out more about integrating the use of interactive media and one respondent summed it up nicely by indicating that interactive media was a "powerful, a two-edged sword." This respondent further explained that interactive media technology solved some training problems, however, it created more headaches when combining graphics, sound and print. A complete list of comments is included in Appendix H.

Summary

The total number of respondents in this study was 46, or 52 percent of the total population. In Part I of the survey, the largest segment of the population was employed by manufacturing companies. The most reported job titles included "training" and "development." The job competencies most reported included "individual, organizational and career development."

In Part II of the survey, a total of 19 respondents, or 41 percent, indicated that they had used interactive media technology beyond exploratory use. Of these respondents, 16 of them, or 35 percent, recorded using the technology from 1 month to 10+ years. The types of training courses most reported by respondents included safety programs, technical programs, product and sales skills, job-specific skills and basic computer skills. The most reported types of hardware were 486 Pentiums with CD-ROMs, IBM and IBM compatible computers and sound cards with speakers. The most reported software was Power Point, Lotus, Microsoft Word, Authorware and Excel.

In Part III of the survey the most reported resource used for decision making was "Professional or Amateur Advice." In the comment section of the survey, many reported limited use of interactive media technology, however, most were very interested in increasing their use as costs decrease.

This study showed considerable interest in the use of interactive media technology by HRD professionals from Oklahoma-based organizations. They offered valuable information about themselves, their job titles and functions, and about their level of experience with interactive media.

CHAPTER V

CONCLUSIONS

Interactive media technology has become important to the HRD profession. The use and growth of this technology has impacted how HRD professionals educate themselves and the organization's employees and this trend is bound to continue. HRD literature documented the use of interactive technology by the benefits and limitations, however, most research has been based in formal classroom settings with students who are college age or younger. Few studies have been conducted using adults in workplace settings to show that interactive instruction is more effective than traditional classroom settings. HRD literature also provided only few examples of decision making "models." As the use of technology increases, more research will need to be done to establish the principles of its effective use in workplace settings.

Addressing the Research Objectives

This study established two objectives. The first objective was to find out what technology HRD professionals were using. In order to meet this objective, a population of ASTD members from Oklahoma-based companies was chosen. These members were asked to report their job title, describe job functions and share their experiences with interactive media. A response rate of 52 percent was achieved. Nearly 63 percent reported job titles that included "training" and "development." Over 50 percent of the

respondents recorded job functions or "individual development" and "organizational development." Forty-one percent of the respondents indicated that they had experience with interactive media technology, beyond exploratory experience and 35 percent reported using the technology from 1 month to over 10 years. The results indicated that the ASTD members from Oklahoma-based companies were using the technology at a slightly higher rate than reported nationally. Their experience was limited and their interest in interactive technology indicated an increased use in the future.

The second objective of this study was to find what resources HRD professionals used for decision making regarding the use of interactive media. When asked what resource they use most for decision making, 34 percent reported "Professional and Amateur Advice."

Implications for Research and Practice

The data collected from this study indicated that an increasing number of companies were using interactive media. In 1993, ASTD reported that 33 percent of U.S. companies were using interactive media technology and Training reported 37 percent in 1992. This study, conducted in 1996, indicated that 41 percent of the respondents from Oklahoma were using the technology. Although this study only included ASTD members from Oklahoma-based corporations, the results indicated a steady increase in media usage. Additional research with other ASTD populations could provide interesting results that could be compared to this study.

As the use of interactive media technology increases in the HRD profession, experienced and inexperienced HRD professionals will need up-to-date and relevant information from academic communities, vendors and from each other. Keeping abreast

of latest innovations in media technology will be vital to stay competitive in the workplace. The source of information could provide a competitive opportunity.

Conclusions

Interactive media technology is impacting the work lives of HRD professionals. The vast amount of information available about interactive media technology is often overwhelming. This study, investigating the resources used in decision-making, is one small step in providing the information that HRD professionals need in making informed purchasing decisions. With technology changing so quickly, HRD professional need to develop a network of knowledgeable peers and hone their skills. HRD professionals should also realize that value of their own life-long learning to remain at the top of their field.

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APPENDIXES

APPENDIX A

INTERACTIVE MEDIA USAGE STUDY

INTERACTIVE MEDIA USAGE STUDY

Please answer the following questions regarding your organization's use of interactive media for training and return by March 11, 1996 to Deneen Pennington, 4417 W. Urbana St., Broken Arrow, OK 74012. A stamped return envelope is enclosed, or you can fax to (918) 455-3087.

PART I

1. What is your job title?_____

2. The American Society of Training and Development has established the following human resource functions. Place a check mark (√) in front of each function(s) that you perform in your current position. (Descriptions of each of these functions are attached.)

___ Individual Development
___ Organization Development
___ Human Resource Planning
___ Human Resource Information Systems
___ Employee Assistance
___ Career Development
___ Organization/Job Design
___ Selection and Staffing
___ Compensation/Benefits
___ Union/Labor Relations

3. What is the size of your organization?

___ less than 50 employees
___ 51-75 employees
___ 76-100 employees
___ over 101 employees

PART II

4. What is your level of involvement with the use of interactive media for training programs? (See the attached page for definition of interactive media.)

___ only exploratory experience - have yet to use technology in training programs
___ have used media technology, however, do not make the purchasing decisions
___ have used media technology and recommended purchasing decisions
___ have used media technology and made purchasing decisions
___ have never used media technology to date

5. Four categories of interactive media techniques are listed below. Please mark each category(s) that your organization is presently using.

___ **Auxiliary Support for Stand Up Instruction** - Use of interactive media support by a trainer to complement the presentation of curriculum to trainees. (This can include presentation software, etc.)

___ **Tutorials** - Use by individual trainee; includes compact disc read only memory (CD ROM) and compact disc interactive (CDI).

___ **Electronic Job Aids** - Use of techniques tailored to a specific job with generic application.

___ **Electronic Performance Support Systems (EPSS)** - Use of intersecting technologies that offer "just-in-time" learning tools to a person with a task or job to do. Provides on-demand access to all the resources a person needs to solve a problem, to perform a task, or to do an entire job. Includes hyper media, interactive instruction, data bases and expert systems.

6. How long have you used these techniques?

_____

7. What types of training subjects did you offer through interactive media?

_____

8. What kinds of hardware do you use?

_____

9. What kinds of software to you use?

_____

PART III

10. Please list any resource(s) you use for decision making in choosing and implementing interactive media techniques.

___ Professional or amateur advice (please explain) _____

_____

___ Multimedia publications (please specify) _____

_____

___ Vendors (please specify) _____

_____

___ Trade associations (please specify) _____

_____

___ Small business organizations (please specify) _____

_____

___ Other (please specify) _____

_____

11. Please list any other comments about your experience with the use of interactive media.

_____

_____

_____

_____

Name _____

Address _____

RETURN THIS SURVEY IN THE ENCLOSED STAMPED ENVELOPE OR FAX TO (918) 451-0387.
THANK YOU FOR COMPLETING THIS SURVEY!

DEFINITIONS

Interactive Media - "label used for various techniques, most of which are computer-support, for improving the delivery of information and training to the employee, both in the classroom and at the work station."

Source: American Society of Training and Development (ASTD). (1993). Performance support and interactive media 1993 survey 1 results (Research Report). Alexandria, VA.

American Society of Training and Development
Human Resource Wheel

Individual Development - focus: identifying, assessing and through planned learning, helping to develop the key competencies which enable individuals to perform current and future jobs.

Career Development - focus: organized, planned efforts comprised of structural activities or processes which result in a mutual career plotting effort between employees and organizations.

Organization Development - focus: assuring healthy inter- and intro-unit relationships and helping groups initiate and manage change.

Organization/Job Design - focus: defining how tasks, authority systems will be organized and integrated across organization units and in individual jobs.

Human Resource Planning - focus: determining the organization's major human resource needs, strategies and philosophies.

Selection and Staffing - focus: matching people and their career needs and capabilities with jobs and career paths.

Human Resource Information Systems - focus: assuring a personnel information base.

Compensation/Benefits - focus: assuring fairness and consistency of compensation and benefits.

Employee Assistance - focus: providing personal problem solving and counseling to individual employees.

Union/Labor Relations - focus: assuring healthy union/labor relationships.

Source: McLagan, P. (1983). Models of excellence: The conclusions and recommendations of the ASTD training and development competency study. Alexandria, VA: ASTD Press.

APPENDIX B

INSTITUTIONAL REVIEW BOARD

APPROVAL FORM

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD

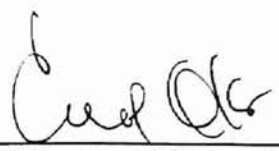
DATE: 02-12-96 **IRB #: ED-96-076A**

Proposal Title: THE IDENTIFICATION OF RESOURCES USED TO SELECT AND IMPLEMENT INTERACTIVE MEDIA TECHNIQUES FOR TRAINING PROGRAMS

Principal Investigator(s): Catherine Sleezer, Deneen Pennington

Reviewed and Processed as: Continuation

Approval Status Recommended by Reviewer(s): Approved

Signature:  Date: November 23, 1998

Carol Olson, Director of University Research Compliance
cc: Deneen Pennington

Approvals are valid for one calendar year, after which time a request for continuation must be submitted. Any modification to the research project approved by the IRB must be submitted for approval. Approved projects are subject to monitoring by the IRB. Expedited and exempt projects may be reviewed by the full Institutional Review Board.

APPENDIX C

SURVEY COVER LETTER

INTERACTIVE MEDIA USAGE STUDY
4417 West Urbana Street
Broken Arrow, OK 74012

February 19, 1996

Name
Address
City, State, Zip

Dear Name:

Interactive multimedia and human resource development . . .the opportunities seem endless. You, as a member of the American Society of Training and Development, have been selected to share your expertise with others in the field.

As a graduate student from Oklahoma State University's School of Occupational and Adult Education, I have chosen interactive multimedia for use in training programs as the topic for my thesis. Ed Schroer, ASTD Vice President for Research, has provided me with your name and provided input for this study.

With the vast choices in technology, many human resource development professionals need valuable information. They need information about what other professionals are using and the techniques used for decision making. The purpose of this study is to poll human resource professionals, such as yourself, to see what you are using and how you make informed purchasing decisions. **YOUR INPUT IS INVALUABLE** and would be greatly appreciated for the completion of this study. Please complete the attached survey and return via FAX or in the envelope provided in the packet by March 11, 1996. You will notice that your survey is coded for follow up procedures.

Survey findings will be made available for survey respondents. If you are interested in the findings, complete your name and address on the survey and a copy will be sent to you upon completion.

Thank you for your participation in this survey. I look forward to seeing your returned survey.

Sincerely,

Deneen Pennington
Graduate Student

Enclosures

APPENDIX D

JOB TITLES OF THE RESPONDENTS

JOB TITLES OF THE RESPONDENTS

Titles including "Training and Development"

Director of Training and Development
Director of Training and Development
Manager – Training and Development
Manager – Training and Development
Manager – Training and Development
Pulp Mill Training and Development Specialist
Supervisor – Training and Development

Other Titles

Academic Instructor - Aircrew
Administrative Manager
Analyst/Project Leader
General Business Partner
President
Senior Human Resource Consultant
Vice President - Human Resources

Titles including "Training"

Coordinator – Technical Training
Coordinator – Training Center
Corporate Training
Education and Training Coordinator
Executive Director of Training and Consumer Services
Manager – Corporate Training
Manager – Manufacturing Training
Manager – Safety and Training
Parts and Service Training Manager
Senior Training Representative
Supervisor Power Delivery Services Training, Safety and Protective Equipment
System Trainer
Training and Quality Director
Training Leader – Power Supply
Training Manager
Training Manager
Training Manager
Training Officer

Titles including "Development"

Course Development Coordinator
Corporate VP – Organization Development
Human Resource Development Coordinator
Organizational and Employee Development Specialist
Program Development Specialist
Senior Employee Development Specialist

APPENDIX E

TRAINING PROGRAMS OFFERED THROUGH

INTERACTIVE MEDIA

TRAINING PROGRAMS OFFERED THROUGH INTERACTIVE MEDIA

Budgeting and forecasting
C-141-B Aircraft specific, systems description and operations
Compliance/safety training, procedure training (work process)
Computer skills, product training
Continuing medical education
Employee orientation
Information technology; basic computer skills
Job specific training for licensed and degreed technical profs
Learning a new language, computer skills
Mechanical, electrical, clerical skills
Negotiating skills, consulting skills, orientation Program
Nursing education
Object-oriented programming
Product and sales training
Product knowledge
Project management
Safety and job skills
Safety training
Sales, finance, decision-making
Soft skills and technical (military and banking)
Software training
Technical
Technical training
Trustee education, strategic planning, process design
Use of personal computers, specialized technical programs
Vision training

APPENDIX F

HARDWARE REPORTED

HARDWARE REPORTED

486 66 mghz, CD ROM
486 DX 100, Projector
486 Pentiums with CD ROM
486 personal computers
586 - Quad CD Rom, Sound Card, and speakers
Apple MacIntosh and IBM clones (WIN) with media capabilities
CD ROM, portable C drives
CD ROM, Modem, Scanner
CD ROM, 486 PC
Compac (Hewlett Packard) 486-33s
Compac Networks
Computer & Protection Unit
Computer with interactive touch tablet
Gateway IBM
Groupsystems, CD ROMs for MacIntosh and DOS
IBM
IBM & MacIntosh
IBM Compatibles
IBM PCs 486
IBM PC & Datashow (LCD Panel)
IBM-clones, 486s & Pentiums
IBM-compatible PC Pentium, Sound Card, Video Graphics Acelerator, Video Capture, LCD Panel
Lessons on file server, accessed by course through one of 75 stations
PC 486 Pentiums
PC and network servers
V-Tel
VCR, Overhead, TV, Closed Circuit TV

No response (14)

APPENDIX G

SOFTWARE REPORTED

SOFTWARE REPORTED

All kinds, ATR Prism, Word Perfect, Lotus, Microsoft
Astound, Charisma, Authorware
Authorware, Sound Edit, Video Edit, Graphics, OCR, Video Capture, Internal Access, CBT, Authorware, Macromedia
Coastal/Clarity Safety Training, Digital Trainer Professional
Courseware maintenance/Graphics Uses SAGE
Harvard Graphics, Powerpoint
Internally developed software
Lotus, Excell, MS Word, Word Perfect
Lotus Smartsuite
Microsoft Word, Excell, Powerpoint, Access
Microsoft, Lotus, Excell, Powerpoint
Microsoft, Word, Excell, Aris Letters, Powerpoint
Microsoft Office, Excell, Harvard Graphis, Mainframe
MS Windows environment, Business Objects, Toshiba TOSDIC
MS Office Suite
Novell for distribution, Tracs from CBT Systems, CBT Systems Courseware
Powerpoint
Various
Virus Protection
Williams Knowledge System, Gas business Systems
Windows-based, floppy or optical

No response (16)

APPENDIX H

COMMENTS MADE BY RESPONDENTS

COMMENTS MADE BY RESPONDENTS

The interactive media we use was not included in your categories in Question #5. We are part of an interactive audio/visual teleconference network. We do training, hold meetings and certain medical consultants are available on the network.

We have yet to take that "big step" into implementing multimedia into our training programs based on cost. I am at this time working with a vendor in Toronto who is doing a dummy program via CDI. Once that is complete, we will conduct a cost analysis to identify its usage for Thrifty in the form of technical training. Multimedia is something we must address since we are a worldwide organization. Good Luck!

I'm sorry that my response is not more inclusive. That is a concern in our industry--Interactive for processing training is prohibitive in cost.

I went to a site visit to Westcott Communications 6/95 as a part of the ASTD Conference.

Very limited experience. We are interested but costs seem high.

This is very expensive but we will pass this on to our other facilities as a generic model. They will be able to use it as well. Today, it is too expensive, but this is where future training will be or something similar. I believe we need something generic but is easily programmable and then will be specific to each location.

My experience with interactive media is limited. Our company is looking into future applications with the assistance of our IS Department. As the technology improves and training material covers a wide spectrum, we will be more likely to utilize it.

Good for self study subjects that do not merit developing a class on the subject.

We are developing a computer-based training program for the process operators. This is a knowledge-based training that allows trainees to work at their own pace and whenever they can. We should have this in place by mid-March 1996.

Can be a productive tool if developer's remember that form follows function. Have seen some worthless albeit dazzling "productions" where developers got lost in the technology. Tremendous potential for distance learning and just-in-time reviews in sales product knowledge and technical details.

Great results!

We are just now evaluating our transition towards multimedia. We have a direct sales force of 600 people and for product, application, sales skills, etc. we need to develop in this area.

Never underestimate the need for an integrated system. Piecemeal approach to hardware and software is not as "inexpensive" as it first appears. Don't be afraid to try new approaches and software, but keep open mind and listen to everyone. This is no - one way- approach to multimedia. The tools are only as good as the user is. Never assume one tool is best for all approaches.

It's great!

We use facilitators for inside the company who have been through our train-the-trainer program. Their grasp of the materials is excellent - they implement the programs very well in the follow ups. Managers who don't train the courses tend to implement the programs poorly. I want to talk to someone about CBT and CD ROM. We are getting into it and would like to share information.

We are really only just venturing out there! We have experimented some and its worked. Instructors are afraid to change teaching styles/methods. Lots of room for growth in this area! Change is slow!

Powerful, two-edged sword, the future

Working towards more self-directed, computer-based training, but as you can imagine, most of the workforce has a generational bias against such systems. Overcoming resistance is the issue along with financing hardware and software purchases and maintenance.

My company uses multimedia for presentation purposes. Multimedia does not, however, play an active role in our in-house human resources department. Don't know if any of our information is valid for your research!

I've been involved in both the development or CBT, multimedia and simulation applications as well as from the end-used position, i.e. purchase of OTS materials and delivery to trainees.

I'm an instructor with Hughs Tech Services. We recently transitioned from stand up instruction to a rough mixture of 50-50 computer-based lessons and stand-up instruction. With a little coordination, we could arrange a tour of our facilities here at Altus Air force Base.

We're very interested in making greater use of it.

Needs better alignment with 3-D graphics actually portraying real world events rather than two-dimensional animation. Student needs to be taken into the learning experience by using high-level graphic special effects. In the future, this technique will be more cost effective than current cost of transporting the student to learning environment for job skills or creative experience.

VITA

Deneen A. Pennington

Candidate for the Degree of

Master of Science

Thesis: THE IDENTIFICATION OF RESOURCES USED TO SELECT AND IMPLEMENT INTERACTIVE MEDIA TECHNIQUES FOR TRAINING PROGRAMS

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