1993

What skills are needed in personnel management utilizing telecommunication as a training tool

Veronica Lynn Heno
University of Northern Iowa

What skills are needed in personnel management utilizing telecommunication as a training tool

Abstract

According to Daniel Bissonnet (1990) in his article, "The role of high technology in training", as trainers, whether we are firmly entrenched in traditional modes of teaching or are adept at using new tools, the changes that technology imposes on the role of training in corporations are intimidating. The fact remains, though, that high-tech communication products will be used in training. Most consultants agree that as we move into the next decade, technology will require better learning and a broader array of skills and knowledge in the area of telecommunications.

What Skills Are Needed In Personnel Management Utilizing Telecommunication As A Training Tool

A Research Paper

Submitted to

The Department of Curriculum and Instruction

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

UNIVERSITY OF NORTHERN IOWA

by

Veronica Lynn Heno

December 1992

This Research Paper by: Veronica Lynn Heno

Entitled: What Skills Are Needed In Personal Management Utilizing Telecommunications As A Training Tool

has been approved as meeting the research paper requirement for the Degree of Masters of Arts in Communications and Training Technology.

March 4, 1993 Date Approved	Robert R. Hardman Director of Research Paper
March 4, 1993 Date Approved	Robert R. Hardman Graduate Faculty Advisor
March 8, 1993 Date Approved	Constance J. Ulmer Graduate Faculty Reader
March 8, 1993 Date Approved	Peggy Ishler Head, Department of Curriculum And Instruction

TABLE OF CONTENTS

Chapter 1

Introduction

According to Daniel Bissonnet (1990) in his article, "The role of high technology in training", as trainers, whether we are firmly entrenched in traditional modes of teaching or are adept at using new tools, the changes that technology imposes on the role of training in corporations are intimidating. The fact remains, though, that high-tech communication products will be used in training. Most consultants agree that as we move into the next decade, technology will require better learning and a broader array of skills and knowledge in the area of telecommunications.

The current competitive global economy demands that corporations maintain quality with fewer employees and less time. Advanced technological capability at lowered cost increases the options for a competitive global economy. New developments in computers, telecommunications, and interactive videos continue to expand the range of choices with the use of technology. Because the technology is flexible, existing resources in a community are most often the starting point for organizational system development. With this in mind,

the corporate world has no room for people who are unskilled and have no knowledge of the use of technology. However, corporations must be convinced that the money spent to support continuing education and training with the latest technology in telecommunications is worthwhile. The use of educational technology is the answer to many of the problems mentioned, such as unskilled technical employees and employees who are not aware of the mission of the business. Today, it is rare that colleges and universities work with local businesses to develop a technically skilled work force. However, linkages are being developed between educational institutions and major corporations. For example, Xerox has teamed up with local universities in the surrounding areas of each corporate location to offer courses in informational management systems and to provide up-to-date training and education to their employees. In fact, a recent study by the American Association of Community and Junior Colleges reports that three-fourths of community colleges now provide some kind of customized training for businesses (Anonymous, 1988).

In Rockford, IL, a business-education partnership

> produced a technology center that provides advanced training, management and educational support for local companies. The partnership began on the ground floor, says Elizabeth Stirling, Rock Valley's director of college relations. CEOs and middle-management engineers met with the college president and division chairs to plan the curriculum and design the facility. She says the executives' interest in the project was twofold. They wanted a facility to which they could send employees to update skills and the chance to offer input about the qualifications of the graduates - the companies' future employees - the college would produce (Anonymous, 1988, p. 75).

Telecommunications is beginning to dominate the world of business for several reasons such as training, reduction of labor, and less time and money. Telecommunications is communicating electronically over a distance, and broadens as new applications and systems develop. Thus, telecommunications, as we think of it today, is involved with mass, electronic, and computer based exchanges of information. "Information can be

transmitted over distance; includes audio and video, analog and digital signals; and can be used to transmit two-way, prerecorded, and live programming" (Hudspeth & Brey, 1986, p. 11).

Even though the use of telecommunications is growing at a fast pace, viewpoints differ about the use of tele-communications in training. In the 1991 Business Communication Review, personnel managers argue that the rapid influx of high-tech devices, techniques, and information will create a conflict that too much training on technology and not enough emphasis on business application and people skills will disrupt the structure of training sessions. Telecommunication personnel argue that telecommunications is not a critical business function and is not given serious consideration to meet the needs of the business community. Improving credibility with personnel management utilizing telecommunications is a critical objective, and for that to be met, telecommunications personnel have to understand how telecommunications fit the needs of the business.

Personnel management utilizing telecommunications as a training tool need to be well-rounded in three

primary areas: conceptual skills, human skills and technical skills. Conceptual skills involve the ability to see the organization as a whole. A manager with conceptual skills is able to understand how various functions of the organization complement one another, how the organization relates to its environment, and how changes in one part of the organization affect the rest of the organization (Certo, 1980).

Human skills differ from conceptual skills in that human skills are skills that build cooperation within the team being led. They involve working with attitudes, communication, individuals and groups, and individual interests in--short, working with people. (Certo, 1980).

The final skill which is quite different from the previous two are the technical skills. Technical skills involve using specialized knowledge and expertise in executing work-related techniques and procedures. Computer programming, engineering, and the use of technology through telecommunications are a few examples of the technical skills. "Technical skills are mostly related to working with "things"--processes or physical objects" (Certo, 1980, p. 14).

Often when untrained personnel are involved with the use of telecommunications in training, they do a fair to poor job. The lack of knowledge and experience personnel management possess limits their ability to consider the widest possible range of telecommunication options, and the results is that it takes longer than it should to complete the job. All personnel management staff utilizing telecommunications technology should know that it is essential for them to develop their technical skill levels. It is also important for personnel management to balance technical, human, and conceptual skills when training and utilizing telecommunications.

A well-managed training program provides a telecommunications professional with a view of the "whole picture. "While the unskilled may consider most training to be irrelevant, true professionals value exposure to new people and ideas and try to draw relationships to their day-to-day work (Finneran, 1991). It is important to consider training personnel managers for the use of technology (telecommunications) and training telecommunications personnel of the

importance of human and conceptual skills as well as the technical skills.

Statement of the Problem.

Looking back only a decade ago, computer based training and videotapes were the most important tools used in training personnel. As we move into a new decade, we can see that the use of technology is rapidly increasing throughout corporate settings. For example, IBM uses technology to deliver over 30 percent of the company's training, and Atena Insurance company uses technology for a large percentage of its delivery system (Geber, 1990). Despite the increase in use of telecommunications, some concerns about the use of technology for training tend to fall into two categories: 1) Personnel management being knowledgeable about the technology but lacking the skills necessary to use the technology, and 2) The application of the technology to meet the companies needs.

The problem with the use of telecommunications in training is the lack of knowledge and experience managers have with the technology. Many managers are not abreast with the most recent changes in technology and there are even more who never had any educational

courses or training in the area of technology. It is important for managers to be current in applying technical and human skills in the process of training all personnel utilizing telecommunications.

Purpose.

The purpose of this research is to determine "What knowledge and skills are needed in personnel management to use educational technology (telecommunications) as a training tool?"

Definitions.

Business Television: is a two-way audio, one-way video variation for groups at multiple sites.

Computer-Based Training (CBT): is a very general term for utilizing a computer for training. It can be as mundane as transferring a workbook, such as an SAT learning guide, onto computer, or as sophisticated as using simulators to train astronaut to fly the space shuttle.

Interactive: identifies live communication with either two-way audio and two-way video, or two-way audio and one-way video. This provides for question-and answer interactions.

Interactive Television: is two way visual and audio. Interactive television consist of three components: live communication, interactive two way communication, both visual and sound.

Interactive Video: is a merger of computer, laser disc and video technology. The video images are stored on a laser disc and are called up by the computer to create the illusion of a computer system that "interacts" with the user. A touch screen computer monitor is used to receive input from the user and play video recordings.

The touch screen receives information when the trainee "posses" on designated portion of the screen.

Technology: is any information delivery system that allows its users to create, access, process, store, and communicate information. The information delivery system comprises two separate yet interdependent components: media and hardware.

Telecommunications: is involved with mass, electronic, and computer based exchanges of information. Information can be transmitted over distance; includes audio and video, analog and digital signals; and can be used to transmit two-way, prerecorded, and live programming.

Teleconferencing: is a general term for any conferencing system using telecommunications links to connect remote sites.

Chapter 2

Review of Literature

Training Needed for Telecommunications.

A review of current literature reveals that training specialist and personnel managers agree that human resource professionals have an opportunity to improve current communication practices, by improving managers awareness of communication processes, and how to choose between communication media, depending on the message they have to send. Human resource professionals could collaborate with technology specialist in creating a laboratory environment for hands-on experimentation and training on how fundamental work processes are changing in the presence of long-term changes in technology (Becker, 1991). It is vital to design and maintain a training system for professionals utilizing telecommunications. Without an adequate investment in training, it is impossible for managers to use and implement technology to fit the company's needs. Time and again, when untrained personnel are involved in telecommunications projects, they do a poor to mediocre job. Their lack of experience limits their

ability to consider the widest possible range of options, and the result is that it takes longer than it should to complete the job (Finneran,1991). The connection between human resource professionals and training specialist would eliminate some of the problems untrained personnel encounter when using telecommunications as a training tool.

Many companies have observed huge declines in the skills of their entry-level employees. Changes from one generation to the next generation is one of the contributing factors to the decline in entry-level employees. Each generation is brought up to date using various technological stages. In the 1950's the radio was introduced. The 1960's experienced the invention of the television and then later in the 1970's the computer appeared in many businesses and educational settings. In the 70's and the 80's, the age of the computers started growing rapidly and currently in the 1990's we are involved with interactive disc and video as well as tele-communications. Today's employees need more basic training than employees did in the past, and technology is an efficient way to teach this basic information (Heathman & Kleiner, 1991).

Telecommunication's technology is moving so rapidly and encompasses such a broad spectrum of critical business issues, that personnel managers say they are having a hard time finding qualified people. As a result, skilled telecommunications workers are in demand at a time when many companies are downsizing and laying off personnel (LaPlante, 1991). Professionals in the field of telecommunications usually lack the human skills (people oriented) and the conceptual skills (knowledge of the business) needed to be an effective managers. As telecommunications professionals advance in their careers, they will find a greater need for business training rather than technical training. Since most business schools do not consider telecommunications to be a critical business function, it is dealt with in a minimum to no capacity (Finneran, 1991).

However, telecommunications is becoming an intregal part of businesses in the areas of training, thus telecommunications can no longer be ignored. Companies are now realizing that training is important and that jobs in the area of training technology can not be done without adequately trained personnel.

Among some of the most respected corporate training departments in the country, training technology has grown relentlessly in the past decade. Since the mid 1980's IBM has increased its use of training technology from 30 percent to 60 percent in 1991 (Heathman & Kleiner, 1991).

All the "tools" have together produced a sizeable change in the way the largest human resource department conducts their training sessions (Geber, 1990). The most important reason why the worlds of business and education are coming together in training technology is because of the cost-efficiency in terms of both money and time. People who can move comfortably in and across the worlds of high technology and education are valuable and in high demand because there are so few of them. It is crucial that trainers better grasp the uses of high technology in the instructional process, so that they become what we call high-tech trainers and increase their value to society and their value in the marketplace (Bissonnet, 1990).

Technology in all areas and especially in telecommunications must be carefully planned, engineered, and implemented, and it must be combined

with proper staffing and training, says Diane Keogh, manager of COMSUL Ltd., a consulting firm that specializes in information and communication technology. Technology and the human factor must be carefully balanced (Radloff, 1991). The human factor involves the skills one needs to interact with others while using technology.

Network Managers.

Most local area network managers get satisfaction from the problem-solving elements of the job. Richard Van Slyke, director emeritus of the Center for Advanced Technology in Telecommunications, says that network managers need a knowledge of the business and emerging technologies but also a global view of network management. Specialized avenues for enterprise network careers include systems-level management, voice or data network management, and telecommunications facility management.

The biggest challenge to network managers is keeping up with fast-paced technological changes (Leinfuss, 1992). Due to a rapid influx and use in technology, telecommunications is rapidly changing and dominating the areas of business, education and health

care. In global data networking, manageability translates into network management tools that adhere to industry standards. The technology must be readily usable by all who come in contact with it, regardless of technical training (Benhamou, 1992).

Technical Managers.

According to Ely S. Lurin (1991) in his article, "Putting Training on Track", in order to improve training, it helps to understand how the current organizational structure of most management departments precludes significant changes in policy and the use of new training technologies. In most cases, the training staff lacks sufficient technical background and project management ability to develop far-reaching programs. While the staff may posses a strong background in training methods, it may not have sufficient knowledge of new developments in training technology (telecommunications).

> "Technical managers are often promoted too high, too fast," said William Heider (1989), vice president of telecommunications at the Gannett Co., Inc., the newspaper and broadcast conglomerate based in Arlington, Va. "Technical

managers come up through the ranks of dealing with machines and things, not people. They are promoted based on their technical achievements, not their people skills" (Eckerson, 1989, p. 19).

It is important for personnel management to have a strong foundation in training methods. It is also important for them to keep abreast with new changes in technology and how it can be used in training.

Business Television.

While several professionals argue about the skills needed for personnel utilizing telecommunications in training, many companies have implemented the use of several technologies such as television (business TV), videoconferencing, teleconferencing and computer-based training.

Television, the most important powerful informational and educational tool to be invented since the printing press, is finally realizing its potential. Television can now provide a medium for 2-way communication via private corporate networks, videoconferencing facilities, and interactive training products (Crofts, 1991). More and more human resource development professionals are finding themselves out of

the classroom and in front of the camera (Shepard, 1992).

The current competitive global economy demands that corporations maintain quality with fewer employees and less time. There is little room for unskilled personnel in corporate America. Corporations must be convinced that the money spent to support continuing education and training is of great importance. For many Fortune 500 companies the answer is business television or BTV (Marek, 1991). Business television is a two-way audio, one-way video variation for groups at multiple sites. An increasing number of human resource development professionals are using live television instruction, often called distance learning.

AMP Inc. (Harrisburg, Pennsylvania), a manufacturing of electrical and electronics connection devices, face mounting costs to provide its custom-designed course on a broad range of engineering topics to its 4,000 scientists, engineers, and technicians at 165 sites in the US and 27 other countries. AMP joined in a cost-effective partnership with a Public Broadcasting Service affiliate in Harrisburg. This arrangement has allowed AMP to mount a series of interactive

training courses beamed to company engineers from all over North America quickly, and without large start-up costs or long delays (Guisti, 1991).

The use of television offers several benefits: 1) Training is faster and less expensive, 2) Training courses can be delivered to small and remote operations, 3) Familiarity with corporate practices and standards can be increased, 4) Instruction is more consistent, 5) More participants can be taught by in-house experts, and 6) Communication increases among professional colleagues.

Business television is experiencing major growth as a means of teleconferencing. With business TV, transmission is made from one center to an audience in any number of locations. Apart from business TV's use in mainstream corporate communications, clients are finding other uses, such as auctioneering and training programs (Rines, 1991).

Teleconferencing.

Teleconferencing is an increasingly affordable technology that can help fulfill a trainer's fantasy: delivering interactive training programs to a widely scattered audience through audio, video or audio/video

linkage. Teleconferencing is a general term for any conferencing system using telecommunications links to connect remote sites. Ken Steele, management development supervisor for United Telephone Systems's Midwest Group in Overland Park, KS, says two-way video teleconferencing has become essential to his company's training efforts (Sheridan, 1992).

Teleconferencing is only one way that technology can be used. However, trainers can and should take advantage of the ever-developing technology and adapt it into effective motivational, human-oriented training programs while keeping down hardware and development cost (Heathman & Kleiner, 1991). A network operations organization needs a powerful and flexible real-time network management system. Network management systems will evolve to incorporate future technology requirements by providing the ability to cross-reference data from different elements (Robson, 1992). User training can help technophobics better utilize systems. The need for training is not surprising given the pace at which technology is being introduced (Yovovich, 1991).

Telecommunications in Education.

Technology can be a tool to reach teachers with training, information, and resources that enhance their skills and expand their knowledge. Educational leadership is a critical factor for planning efforts that draw the private and public sector interests, use resources efficiently, and meet a broad base of educational and corporations needs.

> Educational requirements for infrastructure coincide with a growing demand for telecommunications capability and service coming from all sectors of society. Education needs that parallel the needs of business, government, and health care providers create an opportunity to share costs. Even more important, this paralleling of needs has stimulated an active marketplace for hardware and services that has brought industry and the private sector to the door of the education community (U.S. Congress, Office of Technology Assessment, 1988, p. 9).

More and more large corporations are teaming up with educational institutions to improve the involvement with telecommunications in training, to stay abreast of

new technology offerings and to take advantage of different means of delivering vital information. One example of a university teaming up with a business is The Telecommunications Training Division of Texas A&M University Engineering Extension Service, which was established in 1961 to provide training to the independent telephone companies in Texas.

The training division of Texas A&M has been able to respond successfully to a rapidly changing marketplace by offering increasingly specialized training to telcos and an increasingly large number of users and private telecommunications companies. New courses at the university are continually being added to the Telecommunications Training Division. Courses in the area of training technology and educational technology are just a few examples of courses being offered for educators. Existing courses are updated to include new developments in technology and applications (Kays-Teran, 1987).

Telecommunications is used to provide distance learning in the education community. Distance learning has a dual impacts on teachers: as a tool for teaching and as a means to upgrade their own skills and

professional development (U.S. Congress, Office of Technology Assessment, 1988). The most important role of teachers in effective learning means that all must have training, preparation, and institutional support to successfully teach with or through technology. Few teachers have had either teacher education or field experience that enable them to be effective distance teachers or efficiently use technology in their own classroom. Changing technological capability at lowered costs increases the options for distance education. Several distance learning systems are hybrids, combining several technologies, such as satellite, Instructional Television Fixed Services (ITFS), microwave, cable, fiber optics, and computer connections (U.S. Congress, Office of Technology Assessment, 1988).

> In most instances, distance learning appears to be effective as on-site, face-to-face instruction in the classroom. Extensive research indicates that distance learning is equally effective in applications for adult learners in nontraditional programs and for training of professional in business, industry, and the military.

> Distance learning has proven to be a powerful delivery system for many subjects and through many media. Although the evidence is incomplete in K-12 education, studies point to the need for competent teachers, valid instructional models, and appropriate institutional support (Moore, 1989, p. 11).

Technology has both the capabilities and special abilities to link groups of users together through telecommunications to create many commercial activities and broadening markets in which education is a key player.

Chapter 3

Summary and Conclusion

A consensus exists among telecommunications professionals and personnel managers that the use of telecommunications in corporations has and is rapidly growing despite the lack of untrained personnel. In many corporations training sessions emphasized the use of technology more than business application or people skills. Many telecommunications professionals and personnel managers agree that the problem with the use of telecommunications in training is the lack of knowledge and experience managers have with the technology. When utilizing educational or instructional technology as a training tool, managers should be current in applying technical, conceptual and human skills.

The need to be globally competitive forced many companies to utilize telecommunications to maintain quality with fewer employees and less time through distance training and global marketing. New developments in computers, telecommunications, video technologies, and interactive television increased many

companies options for a competitive global economy. It is important to note that technology is flexible and it should be used to meet the needs of the company.

The review of literature has also shown that telecommunications professional and personnel managers are concentrating on recruiting and hiring skilled individuals with knowledge and experience in technology, but also possess the human and conceptual skills needed to be a manager or a training specialist. Human resource specialist and technology specialist agreed that by creating a laboratory environment for hands-on experimentation will enhance personnel managers technical and human skills. Telecommunications has and is playing an important role in corporate training by way of business television, interactive video, teleconferencing, and computer-based training.

In the education community, there are educators who have had teacher education or field experience that has assisted them to be effective distant teachers and successful with the use of technology. Teachers who are lacking the education or experience find themselves required to change their methods of teaching and give

more attention to advanced preparation, student interaction, visual materials, activities for independent study, and followup activities. Several distance education teachers report that the experience has improved their teaching skills. The technology itself could be a means for improving the professionalism of teachers, by fostering access to experts and making high-quality training and professional development available to teachers wherever they are located.

There is a serious problem with unskilled personnel in companies when telecommunications is used to train or inform. However, with technology rapidly changing and the use increasing, it is important to research the area and actively implement some solution to the problem. Because of the lack of resources and references available on the topic of "Skills Needed for Personnel Management Utilizing Telecommunications As A Training Tool," it is difficult to state a solution to the problem based on the literature review. One solution is to educate students in the areas of technical and human skills so they could be prepared to work with both technology and humans effectively.

Overall, the use of telecommunications can be effective when used by the trained and skill managers. Telecommunications will reduce traveling time for personnel training, reduce the cost of labor, and keep businesses and educational institutions abreast of new changes. In addition, telecommunications will keep the private and public sector linked together in the globally competitive market of today.

References

Becker, S. (1991). New communication technology: Helping or hindering the message? Employment Relations Today, 18, 303-312.

Benhamou, E. (1992). The growth of a global data networking infrastructure. Telecommunications, 26, S22-S23.

Bissonnet, D. (1990). The role of high technology in training. T.h.e Journal, 17, 51-53.

Borthick, S. (1990). The learning curve: Telecommunications training in the 1990's. Business Communications Review, 20, 20-28.

Certo, M. (1980). Modern management. New York: Praeger.

Crofts, A. (1991). Television-business tool of the future. Journal of European Industrial Training, 15, 17-21.

Eckerson, W. (1988). Learning to master difficult employees. Network World, 5, 19-20.

Finneran, M. (1991). Good telecom training is never a luxury. Business Communications Review, 21, 68-69.

Geber, B. (1990). Goodbye classroom. Training, 30, 27-35.

Giusti, J. (1991). Satellite dish out global training. Personnel Journal, 70, 80-84.

Gordon, J. (1989). In search of lifelong learning. Training, 26, 25-34.

Heathman, D., & Kleiner, B. (1991). Training + technology: The future is now. Training & Development, 45, 49-54.

Hudspeth, D., & Brey, R. (1986). Instructional telecommunications principles and application. New York: Springer.

Kays-Teran, A. (1987). Training Texas style. Telephony, 213, 37-38.

LaPlante, A. (1991). Hot search for telecom whizzes. Computerworld, 25, 74.

Leinfuss, E. (1992). Network managers: Beyond fire fighting. Computerworld, 26, 101.

Lurin, E. (1991). Putting training on track. CIO, 37, 76-77.

Marek, S. (1991). Business tv - cost effective alternatives. Satellite Communications, 30, 4A-6A.

Marshall, B. (1991). A training success story. Training & Development, 45, 63-65.

Martin, W., & Collins, B. (1991). Sale technology application: Interactive video technology in sales training: A case study. Journal of Personal Selling & Sales Management, 11, 61-66.

Radloff, K. (1991). Wired for success - or failure? Credit Union Management, 14, 44-46.

Rines, S. (1991). A chance for all to confer on screen. Marketing (UK), 26, 27-30.

Rizik, A., & Engstrom, B. (1989). Introducing training in telecommunications organization. Telecommunications Journal, 56, 381-386.

Robson, D. (1992). Managing a growing wireless network. Telephone Engineer & Management, 96, 62-64.

Shepard, S. (1992). Tv training tips. Training & Development, 46, 56-59.

Sheridan, D. (1992). Off the road again training through teleconferencing. Training, 46, 63-68.

U.S. Congress, Office of Technology Assessment. (1989). Linking for learning: A new course for education. (OTA-SET-430) Washington, DC: U.S. Government

Yovovich, B. G. (1991). Business tele-media: A new wave. Business Marketing, 76, 61-63.