Ethical Issues Experienced by Learning Technology Practitioners in Design and Training Situations

Hong Lin
Oklahoma State University

Judith A. Kolb
The Pennsylvania State University

As learning technologies become more prevalent in our organizations, concerns arise related to the ethical use of this technology. This paper examines ethical issues associated with the use of learning technologies in design and training situations. In-depth interviews of 20 practitioners were conducted. The top three concerns reported were related to copyright, learner privacy, and accessibility issues. Diversity, conflicts of interest, and professionalism concerns also were raised. Contributions to new knowledge in HRD are discussed.

Keywords: Ethics, Learning Technology, Training

In recent years, technological forces and a new style of workplace learning have motivated organizations to increasingly incorporate advanced technologies to transform the way organizations learn and the way in which training is delivered (The 2002 *ASTD* State of the Industry Report). Learning and training has become digital, mobile, and virtual to accommodate flexible work arrangements and fluid organizational structures (Church, Gilbert, Oliver, Paqet, & Surface, 2002). As a result, practitioners such as instructional designers, instructional technologists, technology trainers, and others frequently are expected to incorporate advanced technologies in design and training situations. Examples of electronic technologies include presentation methods such as interactive multimedia, computer-based training, video conferencing, and distribution methods such as CD-Rom, Intranets, and the Internet.

The integration of learning technologies often serves a broader strategic goal for human performance improvement (HPI) in organizations (Lewis, 1996; Torraco, 1999). The 1997 *ASTD National HRD Executive Survey on Learning Technologies* revealed that nearly 70 percent of 96 HRD executives and professionals surveyed indicated that learning technologies investment is very important. The respondents also indicated that only 10 percent of their organizations' training time in 1996 was delivered by new learning technologies. By the year 2000, however, respondents predicted that an average of 35 percent of all training time would be delivered by learning technologies (Van Buren, 1998). From 1999 to 2003, the annual *ASTD State of the Industry Report* indicated a steadily increasing adoption of technologies in organizations. In addition, a 2001 benchmark survey, which investigated the status of e-learning in US and Canadian organizations, found that e-learning had already implemented or would be implemented in 3 years by a majority of the surveyed organizations, including 200 U. S. organizations (Taylor Nelson Sofres, 2001).

The phenomenal technological advances that have impacted design and training practices have also given rise to a proliferation of ethical issues relating to the application of learning technology. A laundry list of such ethical issues includes, but is not limited to, digital copyright infringement (Severson, 1997), violation of online private information (Mason, 1995), and misuse of learning technologies in learning situations (Bassi, Buchanan, & Cheney, 1997). Clearly, such ethical issues pose challenges to those practitioners who have taken the responsibility for identifying and incorporating technology applications in design and training situations (Piskurich & Sanders, 1998).

Unfortunately, research that investigates ethical issues associated with learning technology in design and training situations is under represented in the Human Resource Development (HRD)/Workplace Learning and Performance (WLP) literature. The lack of literature in the area of ethics and learning technology is a concern given the fact that more and more practitioners are employing learning technologies on a daily basis in design and training situations. The ASTD Competency Model, for example, identified 36 technology-specific competencies for HRD roles in a technology-driven environment (Bernthal, Davis, Naughton, Rothwell, & Wellins, 2004). Consistent with these competencies, HRD practitioners are expected to support, implement and ensure that the potentials of technology are realized in organizations (Church, et al, 2002; Piskurich & Sanders, 1998). Additionally, Leigh

Watson Healy, Vice President and Lead Analyst for the education and training market in Outsell, Inc., states that there is a convergence of roles in which HRD practitioners increasingly are working closely with people in knowledge management, the IT staff, the chief information officer, and information professional (Pack, 2002). In today's organizations, HRD practitioners who incorporate learning technologies frequently in their jobs are not limited to development specialists of electronic media, but also include the wider array of HRD practitioners who wear a variety of hats.

Problem Statement

Little is known about the ethical challenges faced by HRD practitioners in design and training situations. Instead, studies associated with the use of learning technology primarily focus on the implementation of technology (Bowen, 1998); the effects of technology on process variables, such as learner control, feedback, and usability (Torraco, 1999); principles of effective online courses (Speck, Knowlton, & Weiss, 2000), and competences for online teaching (Goodyear, Salmon, Spector, Steeples, & Tichner, 2001). Knowledge about the issues faced by practitioners working with learning technologies is important for theory building, for policymaking, and for practice. A research study that utilizes qualitative methodology is a good first step in identifying ethical issues.

Literature Review

Learning Technologies in HRD

Learning technology is increasingly becoming an integrated part of human performance improvement (HPI) in organizations (Mager, 1988; Rothwell, 1996). The expansion of e-learning is an example of how the corporate push to enhance learning initiatives and develop better knowledge management systems (Sauer, 2001). Although classroom learning still commands almost 90 percent of corporate training (Pack, 2002), the emergence and popularity of e-learning is considered an alternative to the traditional brick-and-mortar classroom learning. Not surprisingly, the market of e-learning is expanding in various industries at a steady rate. In 2000, the market for web-based corporate training was $2 billion. It is projected to be $11.5 billion in 2003 (Ince, 2000). In the health industry, e-learning had zero percent of the market in 1999, but rose to 10 percent in 2000, and is projected for 13 percent in 2001. In training programs at distribution companies, e-learning was 7 percent in 1999, and jumped to 30 percent in 2001 (Ince, 2000). Another alternative of e-learning is to blend this with classroom instruction. KPMG Consulting is a good case in point. If KPMG wanted to train all its 22, 000 employees using traditional classroom training in its own facility, it would take three years. However, with a mixture of classroom and e-learning, KPMG spent about $3 million to train 8,000 employees in 12 weeks (Berry, 2000).

E-learning has been on the rise with more organizations using it to develop better knowledge management systems (Sauer, 2001). To achieve this end, many organizations have established their own corporate universities to manage knowledge systematically. In 1998, there were 400 corporate universities. In 2000, the number increased to 1,600 (Sauer, 2001). These corporate universities generally use learning technologies to establish a virtual library that allows employee development to be flexible and portable. FedEx is one example. In 2002, FedEx University added an online library of professional development courses, which offers a comprehensive development and business skills library to all employees (Douglas, 2003).

Among many advantages, learning technologies, especially e-learning, offer an alternative to the one-fits-all training format; trainees can customize and self-pace their training. Some companies even find it more effective to blend e-training with traditional classroom training when it comes to advanced soft skills such as team building and ethics. For example, Met P & C first ran its introductory ethics training program online. After its employees had acquired basic introductory knowledge of the issues, the company put them into classrooms for in-depth discussion and role plays (Berry, 2000). Arguably, incorporating learning technologies in HPI process is a desirable approach to foster enterprise transformation and to contribute to the bottom line (Berry, 2000).

Emerging Ethical Issues

A review of literature found that three major ethical issues are emerging with the development of learning technologies in HRD practices. The first issue is copyright infringement. Marbry & O'Driscoll (2004) pointed out that since online materials are so easy to download, copy, and even plagiarize, some organizations may re-use and re-organize learning content that is already available without paying digital fees. In doing so, these organizations become susceptible to charges of digital rights violations and possibly even crimes against property. The second ethical issue is the violation of individual privacy and the abuse of confidential information in training. For example, trainees may feel pressure that their performance or level of technology competences may be divulged to their managers (Marbry & O'Driscoll, 2004). Hatcher (2002) stated that HRD professionals should "establish and nurture

communication technologies by addressing individual rights to privacy and keeping in mind acceptable norms and ethics" (p. 143). The third issue identified in the literature is related to the justification of learning technologies use in HRD. In her book *Models for HRD Practice*, McLagan (1989) points out that one ethical issue associated with HRD work is making the intervention appropriate to the customer's or user's needs. Learning technology practitioners face the similar issue when available technology overshadows customer learning needs or each new technology is used as a replacement for all existing learning methodologies (Bassi, Buchanan, & Cheney, 1997; Piskurich & Sanders, 1998).

Laws

Two laws in particular address copyright issues relating to the application of learning technologies. The first law is *The Digital Millennium Copyright Act of 1998.* This law outlines copyright issues and policy goals to protect intellectual property and the national information infrastructure. One of the most notable messages from the law is that it limits Internet service providers from copyright infringement liability for simply transmitting information over the Internet. (UCLA online Institute, 2004). The second important law is *The TEACH Act*, an acronym for Technology, Education and Copyright Harmonization Act. It was signed into law in 2002. The TEACH Act, as described by the American Library Association, was long anticipated by educators and librarians in that it "redefines the terms and conditions on which accredited, nonprofit educational institutions throughout the U.S. may use copyright protected materials in distance education -- including on websites and by other digital means -- without permission from the copyright owner and without payment of royalties" (the American Library Association web site).

The issues addressed by these two laws reflect a growing concern that has arisen as technological improvements have facilitated the transfer and use of information. Our research question reflects this concern.

Research Question

What ethical issues associated with learning technologies do practitioners report as having experienced in design and training situations? Specifically, when practitioners design Web-based materials or deliver technical training, what ethical issues arise as a result of their use of learning technologies?

Methodology

Subjects

Purposive sampling was used to recruit participants from three units in a major Mid-Atlantic research university. Several criteria were used to recruit research participants from these units. The participants were required to have a minimum of two years of experience working with learning technologies in one of the following responsibilities: 1) designing and developing online courses, 2) providing instructional technology support to establish e-learning environment, and 3) incorporating learning technologies into training programs. The selection criteria ensured that the research participants had appropriate levels of experience in utilizing learning technologies from which to draw upon to discuss experiences in ethical situations. According to Piskurich and Sanders (1998), organizations in both the corporate and higher education arenas usually adopt similar instructional process (such as ADDIE), training prototypes (such as CD-ROM and Web-based materials), and technologies (such as authorware). Accordingly, the issues encountered by these subjects should be of interest to both educational professionals and HRD practitioners. A total of 20 learning technology practitioners participated in this study. Their job titles primarily include instructional designers, instructional technologist, and technology trainers. Eighty percent of the participants were in the age group from 25 to 45 years; their experience working in learning technology ranged from 2 to 15 years. Ten participants were male, ten were female; twelve had an Adult Education/Instructional Systems/Training background.

Procedure

In-depth, face-to-face interviews were used to collect data. The advantage of in-depth interviews, as Van Manen (1990) indicated, is that a researcher, by conducting the interview, and reading and rereading the interview texts, can discover, literally "hear," the meaning of the lived experience from the experiencer's perspectives. After a pilot interview, the original interview guide was revised to improve the clarity of the questions. In its final form, the interview protocol consisted of seven open-ended questions with suggested probes and clarifications under each question. These open-ended questions asked participants to recall ethical issues associated directly with their work activities. The length of the interviews varied with an average session lasting about 40 minutes. The interviews were conducted over a four-month period.

During the interviews, the interview guide was followed using a protocol that allowed for flexibility in the use of probes and clarifying questions. Since recalling ethical situations and being audio recorded might be stressful to some participants, all were assured throughout the process of the confidentiality of their responses.

Data Analysis

All interviews were transcribed verbatim. Afterwards, data analysis for this study followed the constant comparison techniques that were described by Glaser and Strauss (1967) and Strauss and Corbin (1990). Two researchers (one author and one other person who was experienced in qualitative analysis but not involved in the study) independently read and coded the transcripts. Data analysis involved three phases**.** During the first phase, free and open-coding was used (Strauss & Corbin, 1990). This process begins by reading through the transcripts several times, immersing oneself in the data, underlining key words and phrases in the transcripts and making notes on each section of each transcription. These key words, phrases, and notes are the units of analysis that provide the groundwork for further analysis.

The second phase of the data analysis process engaged axial coding. This method uses a series of procedures that make connections within and between groupings and allows for new combinations of data (Strauss & Corbin, 1990). Using the condensed list that was developed in Phase 1, coders sought common and related concepts from the collection of instances documented in each grouping. Following the procedures of axial coding, we continued making connections and combining data within each grouping. During this process, some units of analysis were regrouped wherever necessary. Next, in Phase 3, coders examined and summarized core variables as themes and placed situations under appropriate themes. Using this approach, themes were generated and summarized for each research question.

Validity, Reliability and Objectivity

A synthesis of each interview was prepared and sent to the participant for content verification. All the participants replied and indicated that the syntheses had captured the essence of their interviews. Two people independently coded the transcripts and discussed and resolved differences. An audit trial—detailed field notes, memos, and notes--was maintained throughout the process. Two people not involved in the initial coding reviewed the analysis.

Results

The issues mentioned most frequently by the participants are found in Table 1.

Table 1. *Summary of Ethical Issues Experienced by Learning Technology Practitioners*

Issues	Number of Participants (n=20)	Percentage
Copyright	15	75%
Learner Privacy	13	65%
Accessibility	11	55%
Diversity	7	35%
Conflicts of Interest	4	20%
Professionalism/Confidence	3	15%

Out of 20 participants, fifteen mentioned copyright as a major ethical issue they had to handle in their daily work activities. Thirteen indicated that learner privacy is an ethical issues for them, and over half indicated accessibility as a major concern. For the first three issues, we give verbatim examples from the transcripts. For the last three, due to space constraints, we give only summaries.

Issue 1 Copyright

The most frequent ethical issue that learning technology practitioners have experienced is digital copyright. There are three situations in which learning technology practitioners encountered the copyright issue. The first situation was usually when practitioners, especially instructional designers and instructional technology specialists, interacted with faculty members and needed to communicate extensively with them about copyright clearance in order to design online materials. One study participant indicated:

> Copyright is a big issue in our day-to-day working. We also have requests from faculty members to use things without getting copyright clearance, like they might give us an image or they may want to be able to use a piece of text from the textbook. Explaining that we are restricted in what we can do is often a big topic of conversation (Participant 5).

The second situation regarding copyright was getting permission for an item to use in the work they were developing. This item could be a piece of text, a graphic, a Hollywood movie clip, or a music clip. In order to be able to use these items, practitioners had to obtain copyright clearance. One participant said:

> Our unit is heavily involved with making sure that anything we work with a project has copyright clearance, and that we have the right to use. We do a lot of development in house of things of our own. If we can't get copyright for something, we create things for ourselves to make sure that there are no copyright issues. We have that in all areas (Participant 4).

The third copyright situation was struggling to balance copyright and fair use. Specifically, a majority of 15 participants who mentioned copyright as an ethical issue also indicated that there was a gray area between copyright and fair use guidelines in their job. For example, a trainer who usually prepared seminar handouts and distributed them in free technology seminars in the university said:

> With training, I think the biggest ethical dilemma is whether information is copyrighted or not. For example, if you are teaching an Intro class for Microsoft, and a lot of time because of time, instructors including myself, we end up just copying and pasting the how-to-step-by-step from the HELP menus or from other materials […]. Is it OK to do this? I don't know (Participant 8).

Another participant commented on the gray areas of copyright issues:

> There is not a clear cut, black and white issue. There is a lot of gray area, you know, just what is allowed, what isn't (Participant 18).

In general, the majority of participants who considered copyright an ethical issue found it difficult to differentiate between copyright and fair use guidelines. The question then becomes whether technology helps rid of the gray area or makes it more complex? One participant noted:

> I think technology has got a long way to go, and there are still a lot of answers to…who owns this? Who has the ownership in the creation of that material? Let's say I am in a team, and I am working on a project for a course I am working on. And I want to put this presentation report project, whatever it is we create as a team, in my portfolio. Well, who owns that project? Do I have to get permission from the other people in my team to publish that in my portfolio? And how do we check that? (Participant 19).

Considering that the Digital Millennium Copyright Act of 1998 makes copyright more of a legal issue, we decided to further delve into the ethical aspects of copyright: Is it an ethical issue or a legal issue? Unanimously, participants said copyright was both a legal and an ethical issue. Comments from several practitioners listed below can give us a glimpse on the ethical aspects of copyright issue. One participant said:

> It is both. You don't want to violate the law because it is law. On the other hand, I do believe that having done online work myself, I know how much work to the creation of those products. And I do believe that, creators have a right to earn some value of their work (Participant 13).

Issue 2 Learner Privacy

With its swift expansion and growing popularity, information technology provides broad access to confidential resources (Pourciau, 1999). As a result, individual privacy and online confidential information are susceptible to being violated and abused. In this study, 13 participants cited that dealing with learner privacy was an ethical endeavor. One participant described how easily a learner's private information can be misused with technology:

> And it makes easy for almost anybody to use it. There might be online grade book that you could cut and paste it into an Excel and publish it into a report and show it on-line. Message board, you can take a snapshot of it and paste it to a PowerPoint presentation and take it to a conference, and never consider the fact that in that snapshot you also have student names, you have student data (Participant 5).

In training situations, the potential of disclosing trainees' private information to an unintended population can be an ethical issue to the participants. One participant described a situation in a training situation:

> The ethical kind of dilemma that we had is: when should we allow a staff member's supervisor to actually see their scores? So that I think it is probably kind of an ethical dilemma that we face. When was it OK to do it? Did we need to give their permission? How far over the line where we are stepping with the privacy? […] Because a staff member might not want their supervisor to know they are taking a lot of, you know, pretty detailed technology courses. For instance, if they are the office receptionist, or a secretary, and they are trying to move into web designer, or something. That person may not want their supervisor to know that they are planning on leaving because it might make their work environment a little awful for them (Participant 10).

In general, technology makes individual privacy and confidential information accessible as well as vulnerable. In design and training situations, learner privacy can be violated in that learners' online activities can be tracked, and learners' private information, such as data and training scores, can be disclosed to an unintended population.

Issue 3 Accessibility

Accessibility seems to be a particular ethical issue for learning technology practitioners working in an educational setting. The participants emphasized that accessibility means that a product reaches not only to a majority of its end users, but more importantly, to a small amount of users who have special needs, such as people with disabilities. One participant put it simply:

> Every new web site we create, we try to make it as accessible as possible (Participant 6).

Another participant had similar concerns and provided more information:

> Whenever we promote something, we need to say in such a way that it is understandable, and it is relatable to all avenues of people and all sorts of life. Dealing with technological kind of function, you sort of speak in that language (Participant 14).

Speaking about accessibility as an ethical issue, one participant explained:

> Accessibility is very important. We try to make things accessible if it is presented online [...]. This is where we can get into discussion on ethics. How far do we go down those lines? Does it really have to be accessible? Is that technology versus accessibility? We can really do something cool if we don't care about accessibility, but we have to make sure it is 100% accessible (Participant 4).

In summary, the participants indicated that making materials being accessible to a wider array of learners was more important than being 'cool' or using fancy technology. They emphasized that ethically speaking, it was the right thing to be more conscious of people with special needs

Issue 4 Diversity

Seven participants cited diversity as a major ethical issue in their work activities. They indicated that diversity was an ethical issue both in design and training situations. In design situations, the participants pointed out that they had to be very conscious about the impact of online materials on people from diverse backgrounds. To this end, they made sure that content that they designed and produced with learning technology is not only understandable and meaningful, but also respectful to all avenues of people and all sorts of life. In training situations, diversity being an ethical issue was not only about taking consideration of people's diverse backgrounds, it was also about not discriminating or stereotyping people when it comes to the use of technology, for example, discriminating against older people in seminars and workshops.

Issue 5 Conflicts of Interest

Technology training is taking place in many organizations on a daily basis. For this reason, people who have technological knowledge and skills are often outsourced by some external organizations. People who have access to computing resources are viewed favorably by external organizations as well. When learning technology practitioners take advantage of their skills and training materials that they developed on their work time to earn a second income, they potentially compete with their employer for business in an unfair way. Therefore, conflicts of interests occur. Four participants in this study recognized that they did experience conflicts of interest in their job, and that ethical decision making was involved

Issue 6 Professionalism/Confidence

The last ethical issue identified in the study, cited by three participants, was related to possessing sufficient credentials to perform confidently and professionally in design and training situations. The participants indicated that as technology skills become desirable in the workplace, many people from various disciplines and backgrounds suddenly engage in designing online materials or delivering technology training. Some practitioners may not have sufficient credentials to ensure quality of work.

Conclusions and Recommendations

Today many organizations provide information and/or training in copyright law. Given the prominence with which copyright as an ethical issue emerged in this study, this practice should be encouraged and perhaps the content expanded to include those areas in which actions may be legal, strictly speaking, but may nonetheless violate professional and individual standards of what is ethical. In this study, we found and reported a great deal of confusion and concern related to technology and copyright. Privacy was another issue receiving attention, second only to copyright as a concern voiced by participants. Just as people might not consider fully the ease with which technology allows copyright to be violated, they also might not consider the extent to which individual privacy might be compromised in on-line learning situations. The third issue raised by participants, accessibility, is perhaps the most troublesome because of the societal concerns it raises. As learning technologies increasingly play a significant role in the delivery of learning, the gap between those who have access and those who don't may keep segments of the population from being able to compete for jobs. While it is reassuring to learn that learning

technologies professionals are concerned about accessibility issues, that concern needs to be addressed by researchers in ways that will inform practice in this vital area.

How this Research Contributes to New Knowledge in HRD

This study is a good first step in exploring the ethical concerns of professionals who work with learning technologies. The issues raised related to copyright, privacy, and accessibility, among others, provide several avenues for future research. Findings of this study also raise the need for exploring the concerns and knowledge base of those who are not designers or technical trainers. People who asked for help from our study participants often did not fully understand the ethical issues involved with such things as fair use. They just wanted their jobs completed. It seems clear that all who use learning technologies need to be educated on the legal and ethical issues that arise from this practice.

The diversity issues raised as the fourth area of concern only skim the surface of the ethical issues that arise when technology allows materials to be sent to and used by people all over the world. How should cultural differences of opinion regarding fair usage or other ethical issues be handled? Many of these issues, and others yet to be determined, will affect the future of learning technologies as a means of delivering learning. We are just beginning to collect data that will help us use such technologies in the best possible way.

For now, it seems that the results of this study are especially helpful to organization decision makers. Most importantly, the study may encourage management to take the ethical pulse of the use of technologies in their organizations. Additionally, the issues identified in the study provide useful information for establishing guidelines, standards, or codes of conduct for meeting the challenges of learning technologies.

References

Bassi, L., Cheney, S., & Van Buren, M. (1997). Training industry trends 1997. *Training & Development, 51*, 46-60.

Bernthal, P. R., Davis, P., Naughton, J., Rothwell, W. J., & Wellins, R. (2004). ASTD competency study: Mapping the future. Washington: ASTD Press.

Berry, J. (2000). *Companies are using metrics to justify e-learning's impact on strategic business goals*. *InternetWeek, 836,* 61-65.

Church, A. H., Gilbert, M., Oliver, D. H., Paqet, K., & Surface, D. (2002). The role of technology in organization development and change. *Advances in Developing Human Resources, 4*(4), 493-511.

Douglas, M. (2003). *Corporate U*. Retrieved October 30, 2003, from www.elearningmag.com

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: strategies for qualitative research.* New York: Aldine De Gruyter.

Goodyear, P., Salmon, G., Spector, J. M., Steeples,C., & Tichner, S. (2001). *Competences for online teaching: A special report*. ETR & D, 29, 65-72.

Hatcher, T. (2002). *Ethics and HRD: A new approach to leading responsible organizations. Cambridge,* MA: Perseus.

Ince, J. F. (Dec. 2000). Training choices. *Inside*, *12,* 213-220.

Lewis, T. (1996). Studying the impact of technology on work and jobs. *Journal of Industrial Teacher Education*, *33*(3), 45-65.

Mabry, C. K., & O'Driscoll, T. (2003). Lessons from adult education: Identifying and exploring emerging ethical issues in technologically enhanced performance. *Performance Improvement Quarterly*, *16*(4), 78-93.

Mason, R. O. (1995). Ethics to information technology issues. *Association for Computing Machinery: Communications of the* ACM, 38, 55-57.

McLagan, P. A. (1989). *Models for HRD practice*. Alexandria VA: ASTD.

Pack, T. (July, 2002). Corporate learning gets digital. *EContent*, *25,* 22-27.

Piskurich, G. M. & Sanders, E. S. (1998). *ASTD models for learning technologies: Roles, competencies, and outputs.* Alexandria, VA: ASTD.

Sauer, P. (September, 2001). E-learning emerges as the next horizon in corporate training with promises of cost-savings. *Chemical Market Reporter*, *9*, 8-12.

Severson, R. J. (1997). *The principles of information ethics*. England: M.E. Sharpe.

Speck, D. W., Knowlton, D. S., & Weiss, R. E. (Eds.) (2000). *Principles of effective teaching in the online classroom*. San Francisco: Jossey-Bass.

Strauss, A., & Corbin, J. (1990). *Basics of qualitative research.* Newbury Park, CA: Sage.

Swanson, R. A. (1999). Foundations of performance improvement and implications for practice. *Advances in Developing Human Resources*, *1*, 1-25.

Taylor Nelson Sofres (2001). E-learning in USA & Canada: Benchmark survey. Retrieved on April 1, 2004, from: http://64.233.161.104/search?q=cache:9QijoLZOuD4J:www.skillsoft.com/news/whitepapers/documents/tn_survey.pdf+e-learning+in+USA+and+Canada+Benchmark+Survey&hl=en

The American Library Association (ALA). Retrieved April 28, 2004, from http://www.ala.org/Template.cfm?Section=Distance_Education_and_the_TEACH_Act&Template=/ContentManagement/ContentDisplay.cfm&ContentID=25939

The 2002 *ASTD* State of the Industry Report. Alexandria: The American Society of Training and Development.

Torraco, R. J. (1999). Advancing our understanding of performance improvement. *Advances in Developing Human Resources*, *1*, 1-25.

UCLA Online Institute (2004). Retrieved June 20, 2004, from http://www.gseis.ucla.edu/iclp/dmca1.htm

Van Buren (1998). Learning technologies 1997 second quarter survey report. In G. M. Pishurich & E. S. Sanders, *ASTD models for learning technologies: Roles, competencies, and outputs* (p. 109-116). Alexandria, VA: ASTD.