
Article

Ethical Issues in Qualitative E-Learning Research

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Abstract

In the mid 1980s education researchers began exploring the use of the Internet within teaching and learning practices, now commonly referred to as e-learning. At the same time, many e-learning researchers were discovering that the application of existing ethical guidelines for qualitative research was resulting in confusion and uncertainty among both researchers and ethics review board members. Two decades later we continue to be plagued by these same ethical issues. On reflection on our research practices and examination of the literature on ethical issues relating to qualitative Internet- and Web-based research, the authors conclude that there are three main areas of confusion and uncertainty among researchers in the field of e-learning: (a) participant consent, (b) public versus private ownership, and (c) confidentiality and anonymity.

Keywords: Internet, Web, e-learning, ethical issues

Researchers who have used qualitative data collection methods to investigate e-learning have discovered that the application of existing ethical guidelines can sometimes result in confusion and uncertainty among both researchers and ethics review board members. We were motivated to write this paper based on our experiences conducting e-learning research for over a decade, although many of the difficulties we have experienced are not unique to qualitative research in the field of e-learning (Ess, 2002). Indeed, within social sciences and humanities heated debates have been ongoing for more than a decade because existing codes of ethical practice have, at times, failed to provide appropriate and workable guidelines for Internet- and Web-based research (e.g., Allen, 1996; King, 1996; Mann & Stewart, 2000; Reid, 1996; Thomas, 1996a; Turkle, 1997). On reflection on our research practices and examination of the literature on ethical issues relating to qualitative Internet- and Web-based research, we conclude there are three main areas

of confusion and uncertainty among researchers in the field of e-learning: (a) participant consent, (b) public versus private ownership, and (c) confidentiality and anonymity.

Origins of ethical discord in e-learning

Expressions of ethical discord within the qualitative research literature are not new (e.g., de Lane, 2000; Hemmings, 2006; Lincoln, 1998; McNamee, 2002; McNamee & Bridges, 2002; Pritchard, 2002; Small, 2002; Tickle, 2002; Usher, 2000). The continually evolving research practices that mark qualitative research paradigms make the creation of ethical guidelines an ongoing challenge. Complicating this challenge further is the increasing frequency of the use of the Internet and Web in qualitative research and educational contexts.

There are two uses of the Internet and Web (which we refer to as simply the Net) in educational contexts that have influenced qualitative research and, as a result, created ethical discord (Kanuka & Picard, 2005). First, the Net is being used as an educational context, augmenting or replacing the existing classroom-based (face-to-face) environment. This environment supports the many familiar classroom-based interactions but also supports novel Net-based forms of interaction, broadening the communication boundaries of space, time, and identity. Metaphorically, the Net is also used to create virtual learning environments in which our physical presence appears to be transcended, sometimes referred to as disembodiment (e.g., Dreyfus, 2001) or hypercommunication, potentially creating slippage between the real and the virtual (e.g., Bassett & O'Riordan, 2002). It is no surprise that in such environments existing ethical values within qualitative research paradigms and norms practiced by those who frequent these environments might also be transcended (Bakardjieva & Feenberg, 2000), causing what Bynum (2001) cited as policy vacuums and conceptual muddles. In our experience conducting e-learning research, this contextual and conceptual change has created complicated sets of personal and interpersonal interaction within the education realm as well as in a wider social domain.

Second, the Net is being used to collect data through which researchers using naturalistic inquiry can observe both networked and real-world activities. For example, Web-based cameras (webcams), listening devices, tracking software, and other data-mining Net-based devices allow researchers to observe, monitor, and study real-time as well as asynchronous activities happening anywhere in the world. These data collection tools might be visible and obtrusive, but they are more likely to be unseen, thereby challenging our sense of privacy and aloneness. It has been argued that the use of Net-based information-gathering tools supports a perceptively benign accumulation of information that can become an assault on our individual privacy (e.g., H. Kitchin, 2003; Reiman, 2004). The use of the Net in any of these applications can generate ethical issues and concerns for which there are no simple solutions or recommendations.

Deontological and teleological: Philosophical perspectives for ethical research practice

Debates revolving around moral and ethical behavior have been ongoing since the times of Plato, Socrates, and Aristotle. In more recent times, Kant (1956) brought some resolution to these debates through the following reasoned argument:

The only thing that is good without qualification or restriction is a good will. That is to say, a good will alone is good *in all circumstances* and in that sense is an absolute or unconditional good. We may also describe it as the only thing that is good *in itself*, good independently of its relation to other things. . . . This does not mean that a good will is the only good. On the contrary,

there are plenty of things which are good in many respects. These, however, are not good in all circumstances, and they may all be thoroughly bad when they are used by a bad will. . . . The goodness of a good will is not derived from the goodness of the results it produces. The conditioned goodness of its products cannot be the source of the unconditioned goodness which belongs to a good will alone. Besides, a good will continues to have its own unique goodness even where, by some misfortune, it is unable to produce the results at which it aims. (p. 17, emphasis in original)

According to Kant, goodwill alone is an unconditioned good. In recent debates on research ethics, Kant's argument of ethical behavior is often absent. Contemporary philosophers have more often reasoned that ethical perspectives are based on one of two competing views: deontological or teleological (Thomas, 1996b). The deontological perspective (relating to philosophical theories that state that the moral content of an action is not wholly dependent on its consequences) asserts that codes of ethics need to be developed with clear, articulate, and explicit rules to which researchers must adhere. Deontological perspectives develop and evolve over time and are effective in stable research contexts. In contrast, the teleological perspective (an approach to ethics that studies actions in relation to their ends or utility) maintains that ethical behavior is determined by the consequence of an act, or the greatest social good and the least social harm. Teleological solutions can evolve rapidly as actors closely observe the results of their behavior and adjust their ethical guidelines in response to observed results.

Rule-based solutions (e.g., the deontological view) are attractive in their simplicity and can be particularly appealing in situations that lack clear prescriptive guidelines. Following rules can provide a tangible presence of protection for researchers in terms of knowing whether their research activities are ethical or not. Specifically, if during the inquiry process researchers find themselves in a situation that raises ethical issues, following a prescriptive set of rules on ethical conduct is desirable (Bernard, 1999) and can be advantageous in terms of providing clear direction for ethically ambiguous situations.

In contrast, ethical relativism (e.g., the teleological view) requires researchers to look beyond the rules to either immediate or long-term effects or consequences as a basis for ethical action. The strength of this perspective is that ethical action rests on the need for researchers to self-reflect on their research practices and assume responsibility for the consequences of their actions when conducting research. As Bakhtin (1993) noted, each act is inherently ethical and has consequences. Roth (2004) argued further that because each act raises an ethical issue, every researcher's act contributes to the culture of research. Research ethics, then, is in a constant state of evolving, making rule following approaches less functional. Moreover, as each research project is unique and transitory, the premature creation of governing rules and regulations for practice "would lead us to a futile exercise in perpetual rule construction" (Thomas, 1996b, ¶ 54).

This kind of ethical relativism, however, has three main problems. First, it can be uncomfortably vague in terms of providing direction, especially for inexperienced researchers, and runs the risk of removing situated ethics (Morson & Emerson, 1990). In this respect, regulating bodies constituted by members of the community who have knowledge of and experience with ethical issues can be invaluable (McGinn & Bosacki, 2004; Roth, 2004). However, they inevitably bring a deontological perspective that is often reinforced with a professional mandate. Second, it does not account for the opposing protections and traditions of ethical decisions by different nations and cultures. For example, in the United States there is virtually no protection for workers' privacy. This is in contrast to European law, which forbids employers' surveillance and monitoring of their employees (Spinello, 2002). Third, and on a darker note, history has shown

that occasionally researchers have violated Kant's (1956) imperative of good will (Roth, 2004). We can assume that on occasion researchers will continue to violate Kant's imperative of good will, making the teleological perspective problematic in its assumption that all researchers will self-regulate in a manner that is ethically responsible rather than in their own interests.

In an effort to address the problems of inexperience, cultural diversity, and occasional lack of goodwill while avoiding formal legislation of strict adherence to ethical research practices, associations have been developed for discipline- or professional-based members (e.g., the American Psychological Association). Such associations provide guidelines rather than rules, on the assumption that the guidelines will be critically reflected on and regularly updated within the context of each research setting. In university and public health context these are usually overseen on a case-by-case basis by institutional ethics review boards. Although not all researchers are satisfied with this solution, it does address the need to acknowledge diverse ethical perspectives, contexts, and motivations.

The ethical context of the Net in education

Prior research has shown that Net-based communication technologies create environments in which participants create different social and disciplinary cultures (e.g. Bakardjieva & Feenberg, 2000; Turkle, 1997) with unique communication patterns, norms, values, and interaction systems (Straus, 1997; Whittaker, 2003). These differences in communication patterns, in turn, transform classroom-based conceptions of teaching, learning, and research. Early researchers on e-learning have tended to apply ethical guidelines from a pre-Internet context, with little or no acknowledgment and accommodation of these transformations (Anderson & Kanuka, 2003). McLuhan (1964) pointed out that we tend to interpret new media through our experience of older media. With respect to mediated learning research on the Net, we have also tended to interpret Net-based communication technologies through our experiences with older mediated communication technologies (Kanuka, 2002).

It is, however, the lack of acknowledgment of these kinds of transformations that is the root cause of many of the ethical uncertainties that currently exist with Net-based research (Ess, 2002). Current guidelines for ethical practice in the field of education are greatly influenced by guidelines developed by professional associations and/or governing councils. These organizations have not been able to deal quickly and knowledgeably with evolving ethical concerns that relate to the practice of researching on and/or with the Internet and the Web (Anderson & Kanuka, 2003). Following is an example of a statement by the American Psychological Association (APA, 2003) relating to standards that do not yet exist:

In those emerging areas in which generally recognized standards for preparatory training do not yet exist, psychologists nevertheless take reasonable steps to ensure the competence of their work and to protect patients, clients, students, research participants, and others from harm. (Section 2, ¶ 5)

Although well intended, these type of broad guidelines continue to be sparse on specific guidelines for research or practice that is mediated in any format. Our review uncovered only one document offering specific ethical guidelines for research online (see Bruckman, 2002). Thus, although there has been a stated need for greater awareness for evolving ethical guidelines, there has yet to be a concerted effort to provide these guidelines with regard to Net-based research. The result is that this evolving platform for research, although providing researchers with many

exciting new possibilities for gaining insights with regard to e-learning, is also creating difficulties with respect to ethical practice.

New platforms, new possibilities, new problems

Understanding the complexities, and ensuing problems, of conducting ethical Net-based research became clear with the infamous Rimm (1996) study. This study, published in the *Georgetown Law Journal* (Rimm, 1995) also featured as a cover study in *Time Magazine* (Elmer-Dewitt, 1995), provides us with an example of the need to open the door to open and honest dialogue regarding ethical Net-based research and to understand the technical and social complexities of this environment. The study, as described by Thomas (1996a), reveals how a research project that used the Internet as a source for data collection resulted in a major ethical offense.

The original aim of the Rimm (1996) study was to conduct an analysis of text descriptions of erotica files from electronic bulletin boards and identify demographics of those who access pornographic material on a regular basis. At the researcher's request, the computer system administrator provided copies of private user files from a university computer system. Other information provided by the system operators included secondary data on details of the users, such as position (faculty, staff, student), age, sex, nationality, and marital status. These data allowed the researcher to study approximately 4,000 individuals who accessed pornographic and/or nonpornographic files on Usenet newsgroups.

Not surprisingly, many of the individuals who had accessed the pornographic Usenet group felt that their rights had been violated. At first glance, it might seem obvious that voluntary and informed consent should have been obtained. However, there are certain properties inherent to the Internet that make it unclear if, in fact, consent was required. The Rimm (1996) study brought to the fore questions that are not easy to answer when conducting Net-based research. For example, is consent required when investigating postings in a public forum, such as public mailing lists or chat rooms, or are these communication forums considered private spaces (does a password imply these forums are private)? If so, who is the consent required from? The mailing list owner? The participants? Both? Who owns the data? The posting author? The owner of the server? All three? These are simply a few of the ethical dilemmas unanswered that emerged from the Rimm study, and the Rimm study is only one example of how the Internet raises new forms of ethical discord between and among researchers, participants, and ethic review board members.

Ten years later we continue to struggle with ethical discord in e-learning research. Our experiences as both e-learning researchers and members of ethic review boards have tended to revolve around nonconsensus with respect to (a) informed and voluntary consent, (b) what is public and what is private, and (c) anonymity, privacy, and confidentiality of the data collected.

Consent

Consent is one of the cornerstones of ethical research practices within the field of education (Gall, Gall, & Borg, 2007) and qualitative research in general (Christians, 2000). Except in cases where deception is relatively benign and integral to the research purpose, informed and voluntary consent must be obtained from all participants. In the few cases when consent is not obtained before participation, it must be obtained as soon as possible after participation, usually in debriefing sessions immediately following the researcher's intervention. However, in our experiences we have discovered that obtaining consent can become a complicated process when conducting e-learning research. For example, a common practice in classroom-based educational

research is for a researcher to distribute consent forms to students and have them immediately signed by the willing participants. In an e-learning course setting, this same procedure can become difficult to execute. First, privacy legislation might prohibit institutions from providing contact information (such as e-mail addresses) to researchers that can be used to solicit participation. Second, there is often reluctance by e-learning students to agree to participate, yet they very rarely refuse to participate either; that is, a proportion of students just do not answer the invitation e-mails to participate. Have they refused to participate? Have they even received the invitation to participate? Is it unethical to adopt “reverse techniques,” whereby participants must inform the researcher if they do not wish to participate?

We have heard from our colleagues and read in the literature extreme divergence of opinions between and among education researchers, participants, and ethic review boards with regard to informed and voluntary consent. One possible solution is to inform students that activities (postings, paths traversed on Web sites, time spent on particular resources, etc.) are being collected in a manner similar to the announcement that telephone calls are being recorded at many call centers (see for example, <http://cde.athabascau.ca/students/online.htm>). By implication, research participants who do not wish to partake in such investigation, like call center customers, are free to withdraw from the course, and thus their continued presence is an implied consent. Unfortunately, labeling such default participation as voluntary implies that the research participants (in this case students) have alternative means of obtaining the desired services. In some educational programs, courses and/or individual assignments are not optional (e.g., required program courses offered at specified times and dates), and thus students might not be free to withdraw from the course or related learning activity. As such, researchers using such techniques for obtaining consent must ensure that there are realistic and accessible options for participants who do not wish to participate.

Secondary analysis of data and consent

More recently, there has been an increased interest in observing, classifying, and coming to understand student behavior in a variety of e-learning contexts. One of the most frequently used techniques is something referred to as data mining (Zaiane, 2001). This technique relies on extensive analysis of Weblog entries created by student requests for page delivery and other calls to an educational Web server. This technique might also make use of cookies, which are small pieces of code attached to the Web browser that identify each user and his or her activities on a Web site. Generally, these data are considered to be secondary, as they are not used to identify activities of identifiable individuals, and as such, there is no need for informed consent for access by researchers. However, some of our colleagues in the field of education who have used this technique with e-learning courses have begun to ask themselves if this technique also requires informed consent. The reasoning behind this is that these techniques can be used to track individual behavior, which can also be matched to individual identities (e.g., when the class size is relatively small). In addition, if this technique does require informed consent, does the research participant need to be made aware of all of the possible ways in which these data can be put to use during the research process?

Some of our colleagues, as well as some authors on this topic, have responded to this question by arguing that the Net is a publicly accessible environments and, therefore, consent to data mine on the Internet or Web is not needed. Walther (2002), for example, has maintained that the Net is public, and “while some participants have an expectation of privacy, it is extremely misplaced” (¶ 11). Yet, reflecting back on non-Net-based research, if students enrolled in an educational institution are being observed and recorded by a researcher in a classroom, the researcher would

normally be required to obtain consent from the students and instructors, even though most education institutions are accessible to the public. As such, others have maintained that using data from e-learning courses do, in fact, require consent (e.g., Schrum, 1997). The debate on the need for consent for data mining within e-learning courses continues.

Issues of informed consent also confound the practice of transcript analysis of e-learning courses (Garrison & Anderson, 2003). As more students enroll in e-learning courses, there is a corresponding increase in the need to study the effects that e-learning is having on learning and teaching processes. Transcripts of courses gathered automatically in machine-readable format (e.g., text-based, threaded discussions in WebCT) are a valuable and convenient form of data for education researchers. However, from our research on transcript analysis we discovered that the fluidity of many online course participants, who are often geographically dispersed, makes it difficult to not only track and identify course participants but also to communicate with them. Given the critical need to investigate the impact of e-learning, some program administrators are requesting students who enroll in e-learning courses to notify either their course instructor or program administrator if they do not wish to have their course transcripts used in future research. Following is an example of such a request taken from a university course Web site:

Finally, you should be aware that when conferences are over, they are archived for possible later use in various forms of research. When conference transcripts are used in research, care is taken to ensure that the conference transcripts are anonymous; that is, all information that might identify the contributor is removed. Literal quotations in transcripts may not be reused without specific permission from the original author. If you have any problems with your conference entries being used in research in this manner, you should contact your instructor, immediately, prior to participating in your course conference(s). (Athabasca University, 2007, Important notes, ¶ 3)

Although this option is certainly appealing to us (as we are both currently employed at this institution), we have asked ourselves if this statement is complete enough to fulfill current requirements for voluntary and informed consent. As education researchers we are compelled to adhere to a set of guidelines interpreted and enforced by ethics review boards. With regard to informed consent, these guidelines require us to provide five types of information to ensure that participants are informed: (a) a statement of the research purpose, (b) the identity of the researcher, (c) the expected duration, (d) the nature of the participation, and (e) a description of research procedures. In the above example, does this information to our course participants provide these five types of information? First, the identity of the researcher is unknown. Second, the purpose of the research has not been provided; neither has the expected duration and nature of the participation, and a description of research procedures is not present. Indeed, a very sparse description is provided of the intended analysis process, which might expand and/or change as the research continues.

Although we acknowledge that there are currently ethical problems with this example of open consent, we and many of our colleagues look forward to the day when large repositories of textual educational conferencing transcripts can be analyzed through sophisticated techniques such as latent syntax analysis (LSA), social network analysis (SNA), and neural nets. These kinds of analyses with large databases provide opportunities for e-learning researchers to conduct important kinds of research. At present, however, the guidelines for informed and voluntary consent create a situation whereby the example given above does not provide voluntary and informed consent. As Mann and Stewart (2000) observed, "There are clear ethical considerations

about using databases, as most individuals have no knowledge of where such data are stored and little power to control use of the data” (p. 42).

Some researchers and institutions (such as the example provided above) have argued that ethics approval (which includes informed consent) is needed only when textual data contain information that allows identification of participants. Specifically, if the data can be disembodied (stripped of login names) with, for example, search and replace features of analysis software, the data can then be used without ethics approval (Garrison & Anderson, 2003). Fahy and Spencer (2004) moved this argument further and maintained that when text-based discussion transcripts are stripped of identifying markers, they then become secondary data and, therefore, their use does not require ethics approval. Most often, secondary data are data that have been collected for a primary purpose and are then made available for research by other individuals or groups. Research that uses secondary data typically seeks to replicate analyses already carried out by primary researchers to verify, extend, or elaborate on the original results or to analyze the data from a different perspective. Censuses, vital statistics, newspapers, market research, Gallop polls, and customer tracking are examples of common secondary data sources. However, the inclusion of textual course transcripts as a secondary data source has not been widely adopted by many research institutions. In particular, it is difficult to understand how the textual conversations (which include the opinions and thoughts of both students and instructors) that occur in e-learning classrooms are sufficiently similar to large data sources reported in the aggregate. On this point, Allen (1996) argued that the removal of demographic markers on textual data used in Net-based conversations constitutes a facile identity protection rather than providing real identity protection. Likewise, Bruckman’s (2002) guidelines for ethical online research state that online information may be freely quoted and analyzed only when (a) it is officially, publicly archived; (b) no password is required for archive access; (c) no site prohibits it; and (d) the topic is not highly sensitive. Everything not else typically requires consent, including text-based e-learning course transcripts.

In the case of the examination of ephemeral course transcripts recorded by a webcam or audio recorder, it has also been argued that the individuals being studied are not research participants in the normal use of the word because they are not being asked to do anything specific by the researcher and, as such, obtaining consent is not required. Specifically, research participants are normally understood to be individuals about whom a researcher collects data through intervention or interaction. Distinguishing between such research methods as action research, in which, for example, the researcher takes part in the conference under investigation, versus one in which the researcher merely examines the subsequent transcript or record changes the nature of the intervention or interaction between the researcher and the research subject. Thus, it can, and has, been argued that researchers collecting and analyzing ephemeral Net-based communication without participating have not intervened or interacted in the process, and thus the course participants are not considered to be research participants, eliminating the need for consent and ethics approval from the institutional review board (e.g., Garrison & Anderson, 2003; Walther, 2002). Nevertheless, although as researchers we might see the merit in this rationale, participants do not necessarily agree. In a case study on this issue, Hudson and Bruckman (2002) noted that, to their surprise, the participants who were being observed in their research project were angered at the idea of being observed without their prior consent. Hudson and Bruckman concluded that written consent should have been obtained and that researchers cannot ethically collect Net-based ephemeral data without consent from participants. In contrast, Walther argued that “more fruitful efforts might be made in educating the public about the vulnerability of Internet postings to scrutiny . . . [rather] than by debating whether or not such scrutiny should be sanctioned in research” (¶ 11).

Finally, issues revolving around consent become even more complex when we consider the problem of ownership of e-learning transcripts. In the literature there is no clear agreement on who actually owns messages posted on Net-based spaces. Cavazos and Morin (1994), for example, have maintained that all Net-based communication should be considered published written material and that, as with other copyrighted material, quoting without citing the source is a violation of copyright laws. However, as Mann and Stewart (2000) pointed out, there is also an implied license that mitigates absolute copyright. In particular, if copyright laws were to be followed in a literal sense in Net-based communication, then no one could download or read a message without explicit permission from the copyright owner (normally the author) as their local machine has created an electronic copy of the data. Furthermore, when an individual sends the message, Mann and Stewart (2000) argued, “there is an implied license to read, or even archive, the information it contains” (p. 46). R. Kitchin (1998) added to the confusion on ownership by asking if perhaps the server administrator, the owner of the server system, or the moderator of a discussion group might also have ownership rights.

Typically, when we have requested consent from e-learning students, a number of students do not reply to e-mail solicitations requesting their consent. Such a scenario has forced us to make a decision to either abandon the sample group or remove the postings of individuals who have not given permission. Removal of individual nonparticipating postings is possible, in theory, using search and delete techniques of the analysis software. However, in practice we have found that this becomes problematic because postings often contain excerpts and quotations from previous postings, any of which might have been made by nonparticipating individuals. In addition, use of personal names is common, and removing all references to nonparticipants can be arduous and time consuming. Furthermore, we have also considered that this process could narrowly define removal of a nonparticipants’ posting as an analysis process requiring permission of the participants. Finally, we have also discovered that the removal of one or more person’s postings can make understanding of the conference thread impossible and decontextualize subsequent postings. Many of our colleagues have also encountered this problem. In response this problem (the few participants who typically do not reply to the invitation to participate or refuse to participate), Fahy and Spencer (2004) have argued that the “rights of the majority to participate in research are protected over the objections of those who may not wish to do so” (p. 33) and that “it may well be a greater ethical violation to deny the rights of the willing majority than it would be to accede to the wishes of the reluctant minority” (p. 34). However, in disagreement with Fahy and Spencer, Bakardjeva and Feenberg (2000) argued that all participants should be asked for consent. In the event that there is a refusal of one group member to participate in a research project, researchers should be prepared for this possibility and plan an alternative course of action. Bruckman (2002) concurred and cautioned researchers not to make the conclusion that Fahy and Spencer formulated:

[When] faced with situations where getting consent from potential study participants in a computer-mediated communication forum is logistically difficult or potentially disruptive to the environment, some researchers have concluded that consent is not required. In fact, consent is still required, and substantially disrupting the environment is not acceptable. In such a situation, the investigator must fundamentally rethink the research plan or even abandon it, not lessen their ethical obligations. Many errors in research ethics stem from a researcher’s sincere dedication to the quality of results. While producing quality research results is in itself an ethical imperative, it always takes back seat to the needs of subjects. Be careful not to make this common mistake.
(p. 2)

Mann and Stewart (2000) have maintained that informed consent is “perhaps the key issue to be addressed anew when creating a framework for ethical online research practice” (p. 48). At the other end of the opinion spectrum to Garrison and Anderson (2003) and Fahy and Spencer (2004), who have argued that majority rules and consent is not required when the risks are low, Waskul and Douglass (1996) asserted that if informed consent is not obtained, then a degree of deception is implied. Deceptive research is considered by some researchers to be on soft ethical grounds and is generally considered to be unethical if there are alternative ways to conduct the research (Bulmer, 1982). Moreover, although deception invokes ethical conflicts in research in physical environments, it is complicated further in virtual environments. Specifically, in e-learning research the participants do not have physical clues to identify a researcher (e.g., the physical presence of a researcher taking field notes). As such, in online environments where a researcher does not inform participants of his or her research role and the participant cannot see the researcher, this implies a degree of deception by exploiting the participant’s ignorance of something that he or she could not possibly know about (Waskul & Douglass, 1996).

Given the ethical implications of conducting research without informed consent, on the one hand, and the difficulty of obtaining informed consent by course participants, on the other, it has been our experience there is currently very little agreement about how to proceed. Is it enough to get approval for the possibility of research on human subjects, or do participants have the right to know the specifics of the research and the specifics of how information from and about them is to be used and stored? If so, can researchers gain this level of specificity when they might have many types of investigation and secondary analysis in mind? Can archived e-learning course transcripts that have been stripped of personal identifiers (e.g., names, geographic locations) but include the personal thoughts and opinions of the course participants be categorized as secondary data? Even when the transcripts are stripped of personal identifiers, is there still a risk of being identified through personal expression, for example, the instructor? Should the rights of the majority be overruled by the rights of the minority? We have found that these are not easy questions to answer.

Authenticity and consent

Ethical issues related to e-learning research occur when obtaining electronic consent and ensuring its authenticity. Although these issues are not entirely unique to e-learning research, they do tend to become more complex and hence more problematic when research is conducted over the Net. For example, the process of acquiring consent usually involves signing a consent form in which the researcher outlines the relevant components of the research. In some cases consent is implied by the completion of a survey or questionnaire. Normally a signature authenticates consent; however, many potential research participants do not use digital signature technologies that insure encryption and authentication. Thus, education researchers who are collecting e-mails or Web forms, in a technical sense, are more likely to be subject to “erasure and corruption through power drops, operator error, etc.” (Ess, 2002, p. 6) as well as identity deception (Frankel & Siang, 1999). Bruckman (2002) recommended that electronic consent should be obtained only if “the subjects are 18 years of age or older. The online consent form steps people through each sub-element, one at a time. The risks to subjects are low. Otherwise, consent must be obtained with a signature on paper” (¶ 7).

In spite of the possible limitations of electronic consent, the general practice to date is that unless the researcher has reason to believe that the participants have an incentive to misrepresent themselves, unsecured electronic consent forms are deemed to be acceptable, although not all researchers and ethic review board members agree with this practice (e.g., Mann & Stewart,

2000). To resolve the problem of verifying who actually sent the consent form, some education researchers use authentication software for both participants and themselves. Authentication software also effectively eliminates the possibility of third-party interference. These services are provided at a relatively low cost through certificate authorities and public key infrastructure firms (for example, see <http://www.verisign.com/>). A problem with using authentication software, however, is that both the researcher and the research participant(s) must possess certain technical knowledge and skills to use these features, now built into Web browsers. Besides financial considerations, insisting on secure transmission might stress technical and support skills of both researchers and participants as well as increase the time and commitment required by both the participants and the researcher. As such, relatively few researchers use authentication software when obtaining electronic consent.

Researchers who choose to obtain consent over the Internet also have to be aware of the risk of having vulnerable populations participate in their study. Roberts (2000) (see also Teich, Frankel, Kling, & Lee, 1999; Turkle, 1997), for example, observed that participants occasionally conceal and/or misrepresent important demographic information. This might lead to vulnerable populations (e.g., children or persons of diminished mental capacity) being recruited and included in a study without the researcher's knowledge and/or parental consent (Frankel & Siang, 1999). Schrum (1995) maintained that this lack of knowledge of participants alone presents a serious problem of Net-based research. Drawing from our experiences, we have concluded that there are possible risks associated with obtaining online consent and that we need to be aware of the problems that can occur with this practice. Whenever possible we try to obtain a signed statement of consent from each participant, which we believe can best protect the researcher, the researcher's institution, funding sources, and research participants. Unfortunately, it has also been our experience that when conducting e-learning research we have found that this is not always easy or possible. For example, we have had occasions when the use of the Internet is the only practical means of obtaining this consent. Although we acknowledge that identity deception and attracting vulnerable participants is an ever-present possibility, the Internet also gives us the ability to access participants who might otherwise be unable to participate or who traditionally might not have been able to have a voice in research projects for a variety of reasons (e.g., geographic, disabilities, situational). In certain circumstances, communication via the Internet can access these populations, which, in turn, provides greater inclusivity. With this example, the ethical problem for us revolves around the following issue: Does obtaining consent for certain populations and people over the Internet outweigh the possible risks of attracting unauthorized participants?

Privacy, confidentiality, anonymity

Confidentiality in research refers to an agreement as to how information collected in the study will be kept secure and private (e.g., through controlled access). The terms of confidentiality are usually tailored to the needs of the participants. Privacy refers to the research participants' right to control the access of others to information about them. Anonymity refers to the removal of any unique characteristics (e.g., names, addresses, affiliated institution, geographical areas) that would allow unique identification of participants. As mentioned earlier in the discussion on consent, understanding participants' need for privacy, confidentiality, or anonymity is a way in which a researcher respects the participants and is deemed a fundamental requirement of ethical practice among education researchers. This respect is shown most clearly by allowing the participants to share in the responsibility for decision making that affects them and in particular to share knowledgeably in the decision to participate (or not) in a research project. To make decisions appropriately and knowledgeably, the participant must be informed of all the relevant

details of the research, with an opportunity to refuse to participate. For most types of education research, in a physical context provision of relevant information and procedures for obtaining consent is relatively straightforward. These are detailed by organizations such as the American Psychology Association (2003). The general principles include competence, integrity, professional and scientific responsibility, respect for people's rights and dignity, concern for others' welfare, and social responsibility. In addition to these principles are ethical standards that include, among other things, privacy and confidentiality.

In reality, however, it is not always straightforward or simple to uphold many of these principles when using the Net as a research tool or communication medium during the research process. In particular, promising absolute privacy, confidentiality, and anonymity might not be possible when using the Net in the research process. Researchers need to be cognizant that other people might have access to—or might be able to access—data that are kept on an Internet server. Hence, assurances for privacy, confidentiality, and anonymity cannot be provided by the researcher to the research participants as compared to paper documents that are kept securely under lock and key, although we acknowledge that there are risks here too (e.g., fire, break-ins). With e-learning research, for example, server maintenance personnel will have access to the data that resides on the server, and these individuals will likely have to sign a form promising that they will not share the data to which they have access. The Rimm (1996) study cited at the beginning of this paper illustrates the need to attend to this detail. More troublesome, however, is that hackers can be a looming threat to safely securing data that resides on an Internet server. This threat is threefold: accessing and making public the data that are collected, changing research data, or destroying data through distributed viruses. Are researchers compelled to advise participants that they cannot guarantee that electronic data that resides on computers will not be accessed and used, changed, or destroyed, by others, or can researchers and participants assume that security standards are maintained to the equivalent of data that are stored under lock and key in the researcher's office?

Privately public? Or publicly private?

Research conducted in public spaces generally does not require the researcher to obtain consent. Examples of such cases include observing cheering chants at football games or night club queuing habits on public streets. Many kinds of Net spaces, such as blogs, bulletin boards, and newsgroups without passwords, are also public spaces. In particular, the Internet—or, more specifically, the Web—is an artifact of popular culture, which makes it a public space, and as such we should not expect the same (or any) assurances of confidentiality or privacy (Bassett & O'Riordan, 2002; H. Kitchin, 2003; Walther, 2002). Anyone with Internet access can freely read most newsgroups or blogs and post messages. Kitchin (see also Allen, 1996) has maintained that because these discussion forums are open to the public, there is no need to gain informed consent for Net-based research using others' written comments and ideas; researchers can feel free to use any material posted on the Net because it is a public space.

In contrast to this position, others (e.g., Bakardjieva & Feenberg, 2000; Waruszynski, 2002) have argued for ethical guidelines to protect participants and researchers in these public spaces on the Net. As noted earlier, when a researcher is observing people in public spaces, those being observed can see the researcher. It has been argued that in Net-based public spaces, researchers should also make their presence known to alert those being observed that data are being collected based on their activities. Schrum (1997), for example, asserted that researchers need to make their presence known in any electronic community (e.g., mailing lists, discussion group, electronic class format). Both Bakardjieva and Feenberg and Hudson and Bruckman (2002) provided examples where their participants felt a sense of violation when they discovered they were part of

a study and their consent was not obtained prior to data collection. According to Waruszynisk, researchers who make their presence known can avoid a sense of violation should those being observed discover they are part of a research project.

King (1996) argued that feelings of privacy violation are proportional to our expectation of privacy, irrespective of whether, technically (as H. Kitchin [2003] and Allen [1996] have argued), the Internet in all its forms is a public space or not. Hawk (2001) agreed, stating, "As a general rule, an expectation of privacy will be found to exist when the individual has both a subjective and objective expectation that his or her electronic communications are private" (p. 108). Most of us, for example, would feel that our privacy was being violated if we were being audio- or videotaped in a public space. There would also likely be little question in the minds of ethic committee members that voluntary and informed consent is required from each participant when data are being collected through the use of video and/or audiotapes, irrespective of whether it is in a public space or not. With this in mind, now consider this question: How different is the researcher who tape records a personal conversation in a public space from the researcher who archives communication on a public newsgroup?

This is not an easy question to answer and circles back to a problem described earlier. Specifically, although permanently recording the ephemeral discourse that arises in a public space is not part of a normal public conversation, posting a text message on a public newsgroup, which automatically creates a permanent and public record of activity, is a normal part of online conversation. It is this difference (the permanent and public recording of Net-based communication) that makes it difficult to decide when studying electronic transcripts if this type of research requires voluntary and informed consent prior to the data collection process from those who posted the messages. Researchers have written about this ambiguity with opposing opinions. Wilkins (1991) (see also Schrum, 1997), for example, cited opinions that public Net-based forums (such as public mailing lists and Usenet groups) can be used in research if authorship is cited by reference to note, number, or name and permission from the forum owner is granted. In contrast, other researchers have argued that "the issue of informed consent of authors, moderators and/or archiving institutions does not apply [when] publicly available text is analyzed" (Rafaeli, Sudweeks, Konstan, & Mabry, 1994, *Ethics Policy*, ¶ 1). Bassett and O'Riordan (2002) agreed and added that seeking consent would be counterproductive and impossible except under the most well-funded conditions.

These opposing positions illustrate how the Net complicates our understanding of public spaces. The question can be reduced to this: When is Net-based communication public, and when is it private? According to Waskul and Douglass (1996), it is neither public nor private. Rather, it is both and can be considered to be privately public or publicly private. Technically, securing access to Internet communication cannot be guaranteed in any absolute way. As such, private Internet communications that occur behind passwords or firewalls can be considered at best to be only semiprivate, or privately public. Alternatively, many mailing lists, chat rooms, blogs, and newsgroups are open for the public to join, post messages, and read posted messages. However, in some instances (e.g., mailing lists) individuals must sign on to the group and can be removed by the list owner. As such, some public forums are also semipublic, or publicly private. In a technical sense there are no private spaces on the Internet in the same way that an individual's bedroom is a private space. Because the Net is publicly accessible (even when encryption, authentication, and other security services are used), it has been argued that all Net-based activities are equally public, a position that Frankel and Siang (1999) have referred to as the technological point of view.

However, although this argument does provide clarity to the public-private issue, it breaks down when uniformly and literally applied, especially for education researchers. Consider, for example, when using Net-based forums with course management software that requires a password to communicate. There is an implied understanding through the use of a password that this is a private space, even though technically it is not. Hence, because private and public spaces on the Net can technically only be understood in terms of metaphors, our understanding of private space can be used only if we all agree that this metaphor can be applied to dichotomized private and public domains in terms of not only access but also experience and perception (Waskul & Douglass, 1996). The ethical question for us has become How should we define a sense of privacy when privacy is a matter of individual perception and experience?

Few of us involved in e-learning research would argue over the dichotomies that occur in terms of access (either online forums are technically secured or not); however, agreement continues to break down with respect to applying experience and perception of the participants. For example, unlike with other public forms of communication, we can communicate in a public Net-based forum from the privacy of our home or workspace. Specifically, as King (1996) observed, we have the ability to interact publicly with others from the privacy of our homes or workspaces, making it possible to redefine Net-based communication as private and engage in private forms of communication. In these cases, according to King, it is misleading to assume that Net-based communication in public forums can be considered public and not in need of obtaining consent. Others have agreed (e.g., Waskul & Douglass, 1996), arguing that the perception that all forms of communication on the Net are public is intellectually barbaric and clearly unethical. With regard to using this publicly accessible information as data for research, Reiman (2004) argued,

Privacy is a social ritual by which we show one another that we regard each person as the owner of herself, her body, and her thoughts. It is for this reason that privacy is generally absent from organization such as monasteries, armies, communist cells, and madhouses, where individuals are thought to belong to some larger whole or greater purpose. This is also why invasions of privacy are wrong even when they don't pose any risk to reputation or freedom, even when the invader will not use what he observes in any harmful way, even when the individual is unaware that her privacy is being invaded. Aside from any harms that invasions of privacy threaten, such invasions are *insults*. They slight an individual's ownership of herself and thus insult her by denying her special dignity . . . Privacy conveys to the individual his self-ownership precisely by letting him know of his ability and his authority to withdraw himself from the scrutiny of others. Those who lose this ability and authority are thereby told that they don't belong to themselves; they are specimens belonging to those who would investigate them. They are someone else's data. (p. 205, emphasis in original)

Waskul and Douglass (1996) noted further that the public context of interaction does not preclude the emergence of private interactions; awareness of this distinction is critical to the maintenance of ethical Net-based research and public forums require informed and voluntary consent.

The resolution of inconsistent perspectives on these issues has significant implications for ethical guidelines for e-learning research. We are in agreement with Hawk (2001), who stated, "The traditional notion of privacy limited an individual's freedom from intrusion to the sanctity of the individual's person or home. Cyberspace presents a new dilemma for this legal paradigm" (p 81).

Discussion

Our view of what is ethical and what is not is usually acquired at an early age and shaped through our social and cultural practices and values. Specifically, customs, traditions, and culture define our ways of knowing, which, in turn, defines our ways of expanding what we know and is reflected through our research practices. As such, ethics are socially constructed. There are strengths that arise from ethical practices that are socially constructed, as “virtues are fostered—indeed related to—particular social contexts and without that social support personal virtues so often weaken . . . if we are wanting virtuous researchers, then we must have ‘virtuous research communities’ ” (Pring, 2002, p. 125). It is the development of socially constructed research communities that influences what we perceive to be of value and how we develop personal and professional integrity. However, there are also limitations when drawing from ethics that are socially constructed. In particular, with the emergence of postmodern ways of knowing and the increasing plurality of cultures in modern society, we have found that it is becoming progressively more difficult to know how ethical behavior is being socially constructed and, therefore, influencing the ability to develop ethical research communities. This is particularly true with certain qualitative research paradigms, such as practitioner and action research (Pritchard, 2002; Simons & Usher, 2000), which currently characterize much of the e-learning research. Moreover, as ethics are often unspoken and, in the case of much e-learning research practice, undocumented, we have discovered through our experiences conducting e-learning research that we might not even be aware that others do not share similar ethical principles. Complicating this situation (a lack of awareness of others’ views) is the growing number of graduate students—our future researchers—who are enrolled in off-campus courses and/or programs. It has been our experience that much of what our graduate students learn about conducting ethical research we have passed on to them informally (e.g., during coffee breaks, meetings with graduate supervisors, or in the campus hallways, ad hoc classroom discussions). Recognizing the increasing complexities that novice researchers face, in combination with increasing off-campus graduate course offerings, McGinn and Bosacki (2004) (see also Brinthaupt, 2002) suggested that the teaching of ethics needs to receive priority in research methods courses.

Ultimately, however, the resolution of much of the current ethical discord will happen only after there is open and honest expression of views between the members of Net-based communities, the research participants, and the research community. As time and experience evolve, so, too, will different degrees of acceptable e-learning research practice, depending partially on the nature of the research, the types of participants, and the degree of personally identifiable material being analyzed. It is clear that sustaining ethical research on the Net must rest not only on guiding principles outlined by external committees and authorities but also on the personal integrity of the researcher and the kind of goodwill described by Kant (1956).

In the case of e-learning, however, external governing bodies and goodwill is not enough. e-learning researchers also require technical knowledge of how the Internet works in addition to a willingness to self-reflect with an openness and honesty about all aspects of our work. Bakhtin (1993), a well-known contributor to ethics in the early 20th century, argued that both teleological (relativism) and deontological (absolutism) deny the particularities of everyday situations that are crucial to ethical work. Rather, we must strive to be receptive and perceptive, and struggle to act ethically in each situation. For Bakhtin, ethical action depended on ethical wisdom acquired through creative engagement in past and similar situations (Vice, 1997). We cannot decide a priori what will be harmful and what will not. As Hwang and Roth (2004) have reminded us, “the dialectics of praxis and praxeology constitute the heart of a reflexive development of ethics” (§ 49).

References

- Allen, C. (1996). What's wrong with the "golden rule"?: Conundrums of conducting ethical research in cyberspace. *Information Society, 12*(2). Retrieved April 10, 2006, from <http://venus.soci.niu.edu/~jthomas/ethics/tis/go.christin>
- American Psychological Association. (2003). *Ethical principles of psychologists and code of conduct*. Retrieved June 29, 2007, from <http://www.apa.org/ethics/code2002.html>
- Anderson, T., & Kanuka, H. (2003). *E-research: Methods, strategies, and issues*. Boston: Allyn and Bacon.
- Athabasca University. (2007). *About online study*. Retrieved June 18, 2007, from <http://cde.athabascau.ca/students/online.htm>.
- Bakardjieva, M., & Feenberg, A. (2000). Involving the virtual subject. *Ethics and Information Technology, 2*, 233-240.
- Bakhtin, M. M. (1993). *Toward a philosophy of the act*. Austin: University of Texas Press.
- Bassett, E. H., & O'Riordan, K. (2002). Ethics of Internet research: Contesting the human subjects research model. *Ethics and Information Technology, 4*(3), 233-249.
- Bernard, P. (1999). The nature of the ethical endeavor in science. *NCEHR Communique, 9*(1), 11-14.
- Brinthaupt, T. M. (2002). Teaching research ethics: Illustrating the nature of the researcher-IRB relationship. *Teaching of Philosophy, 29*, 243-245.
- Bruckman, A. (2002). *Ethical guidelines for research online*. Retrieved January 15, 2007, from <http://www.cc.gatech.edu/~asb/ethics/>
- Bulmer, M. (1982). The merits and demerits of covert participant observation. In M. Bulmer (Ed.), *Social research ethics* (pp. 217-251). London: Macmillan.
- Bynum, T. W. (2001). *Computer ethics: Basic concepts and historical overview*. Retrieved January 12, 2007, from <http://plato.stanford.edu/entries/ethics-computer>
- Cavazos, E. A., & Morin, G. (1994). *Cyberspace and the law: Your rights and duties in the online world*. Cambridge, MA: MIT Press.
- Christians, C. (2000). Ethics and politics in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 133-155). London: Sage.
- de Lane, M. (2000). *Fieldwork, participation and practice: Ethics and dilemmas in qualitative research*. Thousand Oaks, CA: Sage.
- Dreyfus, H. (2001). *On the Internet*. New York: Routledge.

- Ess, C., & Association of Internet Researchers (AoIR) Ethics Working Committee. (2002). *Ethical decision-making and Internet research: Recommendations from the AoIR ethics working committee*. Retrieved January 12, 2007, from <http://www.aoir.org/reports/ethics.pdf>
- Elmer-Dewitt, P. (1995). On a screen near you: Cyberporn. *Time Magazine*, 146(1). Reprinted with permission and retrieved June 18, 2007, from http://www.eff.org/Censorship/Rimm_CMU_Time/time_cyberporn.articles
- Fahy, P., & Spencer, B. (2004). Research experience and agreement with selected ethics principles from Canada's Tri-Council Policy Statement: Ethical conduct for research involving humans. *Journal of Distance Education*, 19(2), 28-58.
- Frankel, M. S., & Siang, S. (1999). *Ethical and legal aspects of human subjects research on the Internet*. Retrieved January 15, 2007, from <http://www.aaas.org/spp/dspp/sfsl/projects/intres/main.htm>
- Gall, M. D., Gall, J. P., & Borg, W. R. (2007). *Educational research: An introduction*. New York: Pearson.
- Garrison, D. R., & Anderson, T. (2003). *E-learning in the 21st century: A framework for research and practice*. New York: RoutledgeFalmer.
- Hawk, C. S. (2001). *Computer and Internet use on campus: Legal guide to issues on intellectual property, free speech, and privacy*. San Francisco: Jossey-Bass.
- Hemmings, A. (2006). Great ethical divides: Bridging the gap between institutional review boards and researchers. *Educational Researcher*, 35(4), 12-18.
- Hudson, J. M., & Bruckman, A. (2002). IRC Francais: The creation of an Internet-based SLA community. *Computer Assisted Language Learning*, 15(2), 109-134.
- Hwang, S., & Roth, W.-M. (2004). Ethics on research on learning: Dialectics of praxis and Praxeology. *Forum: Qualitative Social Research*, 6(1). Retrieved May 12, 2006, from <http://www.qualitative-research.net/fqs/>
- Kant, I. (1956). *Groundwork of the metaphysic of morals* (H. J. Paton, Trans; 3rd ed.). New York: Harper Torchbooks.
- Kanuka, H. (2002). A principled approach to facilitating diverse strategies for Web-based distance education. *Journal of Distance Education*, 17(2), 71-87.
- Kanuka, H., & Picard, J. (2005, May). *Ethical conflicts in Internet-based research*. Paper presented at the Canadian Society for the Study of Higher Education (CSSHE), London, Ontario.
- King, S. (1996). Researching Internet communities: Proposed ethical guidelines for the reporting of the results. *Information Society*, 12(2), 119-127. Retrieved May 12, 2006, from <http://venus.soci.niu.edu/~jthomas/ethics/tis/go.storm>

- Kitchin, H. A. (2003). The Tri-Council policy statement and research in cyberspace: Research ethics, the Internet, and revising a living document. *Journal of Academic Ethics*, 1(4), 397-418.
- Kitchin, R. (1998). *Cyberspace: The world in the wires*. New York: John Wiley.
- Lincoln, Y. S. (1998). The ethics of teaching in qualitative research. *Qualitative Inquiry*, 4, 315-328.
- Mann, C., & Stewart, F. (2000). *Internet communication and qualitative research: A handbook for researching online*. London: Sage.
- McGinn, M. K., & Bosacki, S. L. (2004). Research ethics and practitioners: Concerns and strategies for novice researchers engaged in graduate education. *Forum: Qualitative Social Research*, 5(2). Retrieved May 11, 2006, from <http://www.qualitative-research.net/fqs/>
- McLuhan, M. (1964). *Understanding media*. New York: McGraw Hill.
- McNamee, M. (2002). Introduction: Whose ethics, which research? In M. McNamee & D. Bridges (Eds.), *The ethics of educational research* (pp. 1-21). Oxford, UK: Blackwell.
- McNamee, M., & Bridges, D. (Eds.). (2002). *The ethics of educational research*. Oxford, UK: Blackwell.
- Morson, G. S., & Enerson, C. (1990). *Mikhail Bakhtin: Creation of a prosaics*. Stanford, CA: Stanford University Press.
- Pring, R. (2002). The virtues and vices of an educational researcher. In M. McNamee & D. Bridges (Eds.), *The ethics of educational research* (pp. 111-127). Oxford, UK: Blackwell.
- Pritchard, I. A. (2002). Travelers and trolls: Practitioner research and institutional review boards. *Educational Researcher*, 31(3), 3-13.
- Rafaeli, S., Sudweeks, F., Konstan, J., & Mabry, E. (1994). *ProjectH overview: A quantitative study of computer-mediated communication* [Technical report]. Retrieved April 10, 2006, from <http://www.it.murdoch.edu.au/~sudweeks/projecth/about.html>
- Reid, E. (1996). Informed consent in the study of on-line communities: A reflection of the effects of computer-mediated social research. *Information Society*, 12(2), 169-174. Retrieved April 10, 2006, from <http://www.it.murdoch.edu.au/~sudweeks/papers/techrep.html>
- Reiman, J. (2004). Driving to the panopticon: A philosophical exploration of the risks to privacy posed by the information technology of the future. In B. Rössler (Ed.), *Privacies: Philosophical evaluations* (pp. 194-214). Stanford, CA: Stanford University Press.
- Rimm M. (1995). Marketing pornography on the information superhighway. *Georgetown Law Journal*, 83(5),1849-1915.
- Rimm, M. (1996). *Marketing pornography on the information superhighway*. Retrieved April 10, 2006, from <http://xenia.media.mit.edu/~rhodes/Cyberporn/mrstudy.html>

- Roberts, P. (2000). *Ethical dilemmas in researching online communities: "Bottom-up" ethical wisdom for computer-mediated social research*. Retrieved May 10, 2006, from <http://www.com.unisa.edu.au/cccc/papers/refereed/paper40/Paper40-1.htm>
- Roth, W.-M. (2004). Qualitative research and ethics. *Forum: Qualitative Social Research*, 5(2). Retrieved May 11, 2006, from <http://www.qualitative-research.net/fqs/>
- Schrum, L. (1995). Framing the debate: Ethical research in the information age. *Quarterly Inquiry*, 1(3), 311-326.
- Schrum, L. (1997). Ethical research in the information age: Beginning the dialog. *Computer in Human Behavior*, 13(2), 117-125.
- Simons, H., & Usher, R. (Eds.). (2000). *Situated ethics in educational research*. New York: RoutledgeFalmer.
- Small, R. (2002). Codes are not enough: What philosophy can contribute to the ethics of educational research. In M. McNamee & D. Bridges (Eds.), *The ethics of educational research* (pp. 89-110). Oxford, UK: Blackwell.
- Spinello, R. (2002). *CyberEthics: Morality and law in cyberspace* (2nd ed.). Sudbury, MA: Jones and Bartlett.
- Straus, S. G. (1997). Technology, group process, and group outcomes: Testing the connections in computer-mediated and face-to-face groups. *Human-Computer Interaction*, 12(3), 227-266.
- Teich, A., Frankel, M. S., Kling, R., & Lee, Y.-C. (1999). Anonymous communication policies for the Internet: Results and recommendations of the AAAS conference. *Information Society*, 15(2), 71-77.
- Thomas, J. (1996a). Introduction: A debate about the ethics of fair practices for collecting social science data in cyberspace. *Information Society*, 12(2), 107-117. Retrieved April 10, 2006, from <http://venus.soci.niu.edu/~jthomas/ethics/tis/go.jt>
- Thomas, J. (1996b). When cyber research goes awry: The ethics of the Rimm "cyberporn" study. *Information Society*, 12(2), 189-198. Retrieved April 10, 2006, from <http://venus.soci.niu.edu/~jthomas/ethics/tis/go.jt2>
- Tickle, L. (2002). Opening windows, closing doors: Ethical dilemmas in educational action research. In M. McNamee & D. Bridges (Eds.), *The ethics of educational research* (pp. 41-57). Oxford, UK: Blackwell.
- Turkle, S. (1997). *Life on the screen: Identity in the age of the Internet*. New York: Touchstone.
- Usher, P. (2000). Feminist approaches to a situated ethics. In H. Simons & R. Usher (Eds.), *Situated ethics in educational research* (pp. 22-38). New York: RoutledgeFalmer.

Walther, J. (2002). Research ethics in Internet-enabled research: Human subjects issues and methodological myopia. *Ethics and Information Technology*, 4(3). Retrieved January 15, 2007, from http://www.nyu.edu/projects/nissenbaum/ethics_wal_full.html

Waruszynski, B. T. (2002). Pace of technological change: Battling ethical issues in qualitative research. In W. C. van den Hoonaard (Ed.), *Walking the tightrope: Ethical issues for qualitative researchers* (pp. 153-159). Toronto, Canada: University of Toronto Press.

Waskul, D., & Douglass, M. (1996). Considering the electronic participant: Some polemical observations on the ethics of on-line research. *Information Society*, 12(2), 129-139. Retrieved April 10, 2006, from <http://venus.soci.niu.edu/~jthomas/ethics/tis/go.dennis>

Vice, S. (1997). *Introducing Bakhtin*. Manchester, UK: Manchester University Press.

Whittaker, S. (2003). Things to talk about when talking about things. *Human Computer Interaction*, 18(2), 149-170.

Wilkins, H. (1991). Computer talk. *Written Communication*, 8(1), 56-78.

Zaiane, O. (2001). *Practical applications of data mining*. Retrieved April 10, 2006, from <http://vu.cs.sfu.ca/GEN/welcome/welcome.html>