Chapter IX
Ethical Conflicts in Research on Networked Education Contexts

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ABSTRACT

The emergent world of network-based education creates challenges for researchers who wish to further our understanding of the opportunities and limitations while acting ethically in relation with learners, educators, and educational institutions. Existing ethical guidelines and practices were developed in place bound contexts in which privacy, safety, consent, ownership, and confidentiality were exposed and protected in many different ways than that found in networked contexts. This chapter addresses these and other ethical concerns that arise when doing educational search on the net. This chapter is designed to help researchers understand the evolving ethics of research in net-mediated educational contexts. It concludes that researchers need to be prepared to innovate beyond the dictates of often dated ethical guidelines and to act as intelligent and responsible professionals.

The net changes everything - Variously attributed, Dot Com Era

Our identities have no bodies, so, unlike you, we cannot obtain order by physical coercion. We believe that from ethics, enlightened self-interest, and to commonweal, our governance will emerge.

A Declaration of the Independence of Cyberspace - John Perry Barlow, 1996

INTRODUCTION

Ebullient claims like those above give rise to a sense that the global electronic network has

changed the ways in which we interact and that we need a new set of ethos and ethics to guide those activities, including research activities. The net has been instrumental in re-engineering large components of our lives, from commerce to education, and from entertainment to vocation. As both researchers and educators, we have felt these effects with resulting concern, misconception and uncertainty when our research stretches and flexes our current ethical understandings. There are many ethical dilemmas that educational researchers face when conducting studies that are based upon or make extensive use of the Internet resources, communities or conversations. These ethical dilemmas are not unique to our research in the field of education. Indeed, within the field of social sciences, clashes, conflicts and heated debates have been ongoing for over 2 decades among researchers because existing codes of practice are failing to provide appropriate and workable guidelines for Internet-based research. Upon examination of the literature on ethical issues relating to Internet-based research, we conclude that there are three main reasons for confusion and uncertainty among researchers in the field of education. These issues include participant consent, public vs. private ownership and confidentiality and anonymity. Our discussion in this chapter revolves around these issues.

The use of the Internet effects research in the field of education in two distinct ways. First, it provides a new educational context or learning environment, such as a completely virtual education institution (e.g., virtual school or university, or private training organization) or augmentation of classroom-based schooling (so called blended-learning) with network mediated activities. This new environment supports the traditional interactions between and among students, instructors and content (although they are, by definition, mediated) but it often extends these communications to span boundaries of space, time and relationship. The new environment also supports the creation

and operation of student, teacher and content agents (Anderson & Whitelock, 2004) that act autonomously on behalf of their owners while traversing the "semantic Web" (Berners-Lee, Hendler, & Lassila, 2001). The Internet is also used to create virtual learning environments (e.g., learning contexts build in SecondLife and Active Worlds) in which the physical laws of nature can be transcended.

In such novel environments, it is firstly no surprise that ethical laws and norms developed for face-to-face interaction may also be transcended or suspended. All of these contextual changes create very complicated sets of personal and impersonal interaction within an educational realm and the broader social domain. Secondly, the Internet is used to create research tools through which researchers can study, measure and observe both networked and real world activities. For example, WebCams, listening devices, Web mining tools and other forms of Web-enhanced monitoring tools and input devices, allow the researcher to continuously monitor and study real time (as well as asynchronous) activities happening anywhere on the globe. These data collecting devices may be visible and obtrusive, but they are as likely to be covertly hidden or hidden by a subject's sense of familiarity, challenging our sense of privacy and aloneness.

The application of both types of Web-enhanced research creates ethical issues and concerns, and provides opportunity for uninformed (or nefarious!) researchers to exploit or endanger unaware research subjects or participants. We write this chapter as a discussion focused on both the opportunities and the perils of Internet-based research within the field of education. We provide no simple solutions or recommendations. Rather, we write in hopes that those within the research community will benefit through an extended discussion and resulting understanding of the often hidden ethical constraints and dilemmas of Internet-based educational research. We hope

that both researchers and those whose job entails funding or approval of research projects to which questions of human protection and ethical conduct are concerned will use this chapter as a platform for more informed discussion and debate related to the development of sound and workable ethical guidelines. As we delve with increasing frequency into Internet-based research, it is becoming evident that we need to be vigilant in confronting the difficult ethical issues that we are facing. At the point that we write this discussion, Internet-based research, within the field of education, continues to sit on the periphery of mainstream research and, as such, it would behoove us to step up to this challenge and act now in developing ethical practice for Internet-based research. Should we fail to increase our understanding of appropriate ethical practice related to Internet-based research, it will only be a matter of time before harm or at least wasted effort will result to both subjects and researchers. In turn, this will likely result in an increased reluctance for individuals to participate in research projects, greater institutional barriers, and less productive and effective research practice.

The purpose of this chapter is to further more practical discussion on the three most contentious issues previously identified by Kanuka and Anderson (2007). These are issues related to informed consent, ownership and confidentiality and anonymity. We begin the chapter with an overview of two competing philosophical positions that underlie the process by which ethical values, practice and constraints are adopted by research communities. In the conclusion we offer a recommendation for researchers designed to guide their ethical practice. However, we note that such positions are still evolving rapidly in networked contexts and that each action needs to be grounded in the cultural context in which they operate.

OPPOSING ETHICAL PERSPECTIVES FOR RESEARCH PRACTICE

Philosophers have noted that ethical perspectives are most often based upon one of two competing views (Thomas, 1996). The first view, referred to as the deontological perspective, asserts that codes of ethics need to be developed with clear, articulate, and explicit guidelines to which researchers must adhere. Deontological perspectives develop and evolve slowly over time and are most effective in stable research contexts. The second view, referred to as the teleological perspective, 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.

Deontological, or rule-based solutions, are attractive in their simplicity and appeal to those who are uncomfortable dealing with situations that lack clear proscriptive guidelines. However, we generally reject the deontological perspective (rule following) and argue that researchers using the Internet today need to approach ethical research from a teleological perspective (consequentialist). The teleological view looks beyond the rule, to its immediate and long-term effect on participants as the basis for ethical action. As with all rules, ethical guidelines need to be critically reflected upon and regularly updated within the context of the research setting.

Specifically, the rule following approach offered by the deontological view is less functional within the rapidly changing and unstable technological and social culture that currently characterizes the Internet. Rapid technological and fluid social evolution, and innovation, routinely both create and resolve new ethical dilemmas in rapid succession. Moreover, as every research study

and every Internet culture is unique and often transitory, the premature creation of rigid governing rules and codes of practice "would lead us to a futile exercise in perpetual rule construction" (Thomas, 1996).

Finally, we note that 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 define our ways of expanding what we know and this is reflected in our research practices. It is these factors that influence what we perceive to be of value and how we develop personal and professional integrity. Because these principles are often unspoken, and in the case of emerging practice undocumented, we may not be aware that others do not share similar ethical principles. Thus, there is the need for mindful attention to the issue by all researchers.

THE ETHICAL CONTEXT OF THE INTERNET

If, as Benedikt (1996) argues, cyberspace "has a geography, a physics, a nature and a rule of human law" (p. 123), then obviously it is an environment that can provide insight into human behavior and nature through examination of the cultural and sociological constructs that humans create within this context. Formal education is one of the most important social functions, and one in which the ever-growing complexities of this postmodern era require us to comprehend, interpret and manage. As an evolving and important new medium for communication, the Internet has become a valuable tool for information retrieval and artifact construction and has lured both educator and educational researcher into this milieu for use as a platform for teaching, learning and research. As Marshall McLuhan (1964) has pointed out, we tend to interpret new media through our experience of older media. Thus, early educational

research on the Internet has tended to apply tools, practice and ethical concerns from a pre-Internet context to this new environment. Although it remains unclear how many of the research tools that have been developed, tested and honed in real communities have direct utility in virtual communities, it is likely that these tools will be used and modified based on our pre-Internet understanding and experience.

Moreover, it is certain that creative minds will develop new tools designed for producing and disseminating both knowledge and wisdom in an online context. Thus, the ethics of e-research is concerned both with the application and adoption of tools from the real world and the invention, refinement and calibration of a new genre of net-centric tools and practice. In particular, the Internet is an environment in which its users create social cultures that have unique communication patterns, norms, values, and interaction systems that can transform pre-Internet conceptions of self and of community (Postmas, 2007). These transformations are at the root of many of the ethical uncertainties and must be factored into any new codes of ethical behavior developed for Internet-based research. Current codes of practice in the field of education are greatly influenced by proscriptive guidelines provided by professional organizations, notably the Psychological Association's ethical principles of psychologists and code of conduct, last updated in 2003. This organization, like other professional organizations, is facing challenges evolving ethical concerns that relate to their practice as counselors and as researchers. In 1997, a statement was issued suggesting a teleological approach relating to services provided through telephone, teleconferencing or Internet and noted:

[I]n 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. (APA Online)

Moreover, promised to be forthcoming were ongoing guidelines and revisions of code, yet the 2003 guidelines are noticeably silent on specific guidelines for research or practice that is mediated in any format. Thus, while there has been a stated need for greater professional awareness for evolving ethical guidelines, there has yet to be a great deal of enthusiasm for venturing into relatively uncharted territory. Indeed, this evolving platform for research provides researchers with many exciting new possibilities, but is also creating many new problems with respect to ethics in the process.

For example, Peter Steiner's famous 1993 New Yorker cartoon (see http://www.unc.edu/depts/jomc/academics/dri/idog.html) illustrating a dog typing on a computer reminds us that it is still very difficult to authenticate communication or presence on the Internet. Internet-based studies have begun to reveal that some research participants have a tendency to be less inhibited when communicating online than in face-to-face (Reid, 1996), while most carefully manage their online identity through occasionally providing more mendacious or inaccurate demographic data (McKenna, 2007). Roberts (2000) noted that this occurrence is due to the ability of the Internet as a forum for communication in which we can "assume anonymous or pseudonymous online identities that obscure details such as gender, age, and demographics which may be of importance to the investigation" (see also Kendall, 1999; Jones, 1999). Reid also notes the disinhibiting effect of communicating on the Internet, as well as the allure of self-revelation. The explosion of interest in new social software sites (such as faceBook, MySpace and SecondLife) in recent years has accelerated the accurate and fantasy disclosure of personal identity.

These issues can create very interesting and often complex ethical issues for research-

ers. Notable among these are issues relating to consent, ownership and anonymity to which we now turn.

INFORMED CONSENT

Consent is a cornerstone of ethical research practice within the field of education. Except in rare cases where deception is relatively benign and integral to the research purpose, free and voluntary consent must be obtained from all participants. In limited 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, we find that this fairly simple principle can, at times, cause added complexity for Internet-based research.

For example, common practice in educational research is for a researcher to distribute consent forms to students in a classroom setting and have them immediately signed by all the participants. In an online classroom setting, this same procedure often becomes much more complicated. First, privacy legislation may prohibit institutions from providing contact information (such as e-mail addresses) to researchers that can be used to solicit participation.

Secondly, within our own practice, we have noticed reluctance by anonymous students to agree to participate, yet they very rarely refuse to participate either. That is, proportions of students just do not answer our invitation e-mails to participate. Have they, thus, refused to participate? Have they even received our request? Is it ethical to adopt "reverse marketing techniques" whereby participants inform the researcher if they do not wish to participate? And if so, must all evidence of their participation in the class be removed before any analysis of the activity takes place?

These questions have recently caused considerable argument and strain within university ethics review boards at Canadian universities.

One course of action some researchers have taken to solve this problem 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. By implication, research participants who do not wish to partake in such investigation, like call center customers, are free to withdraw and thus their continued presence is an implied consent. Unfortunately, labeling such default participation as voluntary implies that the research participant has alternative means of obtaining the desired services.

In some educational programs, courses or individual assignments are not optional and thus the student is not really free to withdraw from the course or related learning activity. As such, researchers using such techniques for obtaining consent must insure that there are realistic and accessible options for participants who do not wish to participate.

Recently, there has been an increased interest in observing, classifying and coming to understand student behavior in a variety of Internet-based education contexts. One of the most frequently used techniques is something referred to as "data mining" (Zaiane, 2001). This technique relies on extensive analysis of Web log entries created by student requests for page delivery and other calls to an educational Web server. This technique may also make use of "cookies," small pieces of code attached to the students' browser that identify each user and their activities on a Web site. Generally, this data is considered to be "secondary," as it often is not used to identify unique activities of identifiable individuals and, as such, not in need of informed consent.

However, many researchers who are using this technique have begun to ask themselves if, under these conditions, this technique requires informed consent as it can be used to track individual behavior, and this can be matched to individual identities. And if this technique does require informed consent, does the research participant need to be made aware of all of the possible ways and uses this data can be put to use during the research process? Hearkening back to non-Internet-based research, we would generally think that students whose activities were observed by camera or by an observer sitting in the back of the classroom would have to obtain such consent. As such, using secondary data from online classrooms would also require that informed consent be obtained. Issues of informed consent also confound the practice of transcript analysis (e.g., Rourke, Anderson, Garrison, & Archer, 2000). As postsecondary institutions increase their offerings of online courses, there is a corresponding need to study the impact that Internet-based interaction is having on learning and teaching processes. Transcripts of courses gathered automatically in machine-readable format are an extremely valuable and convenient form of data for educational researchers.

However, 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. Thus, obtaining informed consent can be an onerous challenge for education researchers. Given the critical need to investigate the impact that online courses are having on the learning process, some program administrators are requesting students who enroll in online 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 Canadian university course Web site:

Please note that all conferences are archived, and transcripts of the conferences may later be used for research. Whenever transcripts are used for research they are redacted so that, in keeping with ethical requirements, no information is made public which can identify any participant in any way.

If you prefer, you may avoid participation in conferencing if you elect one of the options described in the course "Assignments." Also, you may request removal or revision of any posting you have made to a conference in this course. If you wish to change or remove a posting during the course, contact the course instructor. If you have questions about any of the above, please contact me or the course instructor.

Is this statement complete enough to fulfill current requirements for informed consent? In Canada, university researchers are compelled to adhere to a set of guidelines established by the three federal research-funding councils (see www.ncehr-cnerh.org/english/code_2/). A quick review of these Tri-Council recommendations for informed consent is insightful as we struggle to answer this question. These guidelines require the researcher to provide five-types of information to insure participants are informed. This includes a "comprehensible statement of the research purpose, the identity of the researcher, the expected duration and nature of participation, and a description of research procedures."

Is a broad general consent from the course participants sufficient without stating the exact purposes for which their online course transcripts will be used? In the example provided, we can see that, first, the identity of the researcher is unknown. Secondly, the purpose of the research has not been provided, nor the expected duration and nature of participation, nor a description of research procedures. In particular, a very sparse description is provided of the intended analysis process, which may expand or change as the research continues. In addition, researchers are generally expected to have their data available for examination or re-analysis by peers to insure its veracity, assuming the individual identity and privacy of the participants is protected. Finally, the use of the word "redacted" may pose an ethical problem. To save many readers the task of running to the dictionary, let us quote Oxford

dictionary's (1990) definition of redact: "to put into literary form; edit for publication." The Tri-council guidelines also state that the description of the project must be in language that is accessible and understandable to the respondents, a requirement violated for many in this instance.

While we acknowledge there are ethical problems with this kind of open consent, we also concede that we look forward to the day when very large repositories of educational conferencing transcripts can be analyzed through sophisticated quantitative techniques such as latent syntax analysis (LSA) and neural nets. However, we do not foresee how the issue of informed consent can be resolved and continue to be guided by the Tri-council guidelines. As Mann and Stewart (2000) observe "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). Furthermore, the Tri-Council guidelines assert that ethics approval be obtained if the data contains information that allows identification of participants. Thus, it is possible that ethical implications can be greatly reduced if the data can be "disembodied" to the point where recognition of individuals or personal attribution of their remarks or responses can be eliminated. Work by scholarly groups such as that at the University of Toronto and Athabasca University to gather libraries of such "disembodied" data is useful and welcomed, but one should not underestimate the effort required to remove all personal identifiers from online transcripts, before they can be made available.

In the case of the examination of transcripts or photo's taken by a WebCam, it has been argued that those 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. Yet if we, again, review the Canadian Tri-Council Code of Ethical Conduct for Research Involving Humans (1994), we can see that research participants are defined as "living individuals or

groups of living individuals about whom a scholar conducting research obtains;

- data through intervention or interaction with the individual or group, or;
- identifiable private information."

Distinguishing between active "action research" in which the researcher takes part in the conference under investigation and one on which the researcher merely examines the subsequent transcript or record, changes the nature of the "intervention or interaction" between researcher and research subject. Thus, it can be argued that a researcher analyzing the transcripts of an educational conference, without participating themselves, has not intervened in the process and thus has not placed the authors in the position of "research participants." However, it is also important to recognize that the second criterion is relevant in that transcripts can contain "private information" that has been posted to the conferencing forum. It is currently unclear if there is a sense of implied public access attached to postings on public discussion boards, especially if access is restricted to enrolled students.

Finally, issues revolving around consent become even more complex when we consider the problem of ownership of online transcripts. Based on the literature, it is not yet clear who actually owns messages posted on Internet communication forums. Cavazos and Morin (1994), for example, maintain that all Internet-based communication should be considered published written material and, as with other copyrighted material, quoting without citing the source is a violation of copyright laws.

But, as Mann and Stewart (2000) point 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 Internet-based communication, then no one could download or read a message without explicit per-

mission from the copyright owner (normally the author). However, in sending the message, Mann and Stewart (2000) argue "there is an implied license to read, or even archive, the information it contains" (p. 46). Kitchin (1998) adds to the ownership confusion by asking if perhaps the server administrator, owner of the server system, or the moderator of a discussion group might also have ownership rights.

In our own experience, we find that most students agree to participate in transcript analysis studies and only rarely do we get a definite refusal to participate. However, there are often a handful of students who do not reply to e-mail solicitations requesting their approval. Such a scenario forces researchers to either abandon the sample group or remove the postings of individuals who have not given permission. Removal of individual nonparticipating postings is possible using search and delete techniques of the analysis software, but in practice becomes problematic in that postings often contain excerpts and quotations from previous postings, any of which may have been made by nonparticipating subjects.

In addition, use of personal names is common and removing all references to nonparticipants can be very time consuming. Further, one could narrowly define removal of a nonparticipants' posting itself as an analysis process requiring permission of the participants. Finally, the removal of one or more person's postings may make understanding of the conference thread impossible and decontextualize subsequent postings.

Mann and Stewart (2000) astutely recognize that informed consent is "perhaps the key issue to be addressed anew when creating a framework for ethical online research practice" (p. 48). To complicate this issue further, Waskul and Douglass (1996) assert that if informed consent is not obtained, then a degree of deception is implied, and deceptive research is always on soft ethical grounds and generally considered to be unethical if there are any alternative ways to conduct the

research. While deception invokes ethical conflicts in research in physical environments, it is complicated further in virtual environments.

Specifically, in online environments, the participants do not have outward clues to identify a researcher (e.g., taking field notes, video cameras, tape recorders, etc.). As such, in online environments where a researcher does not inform participants of his/her research role, and the participant cannot "see" the researcher, this implies a degree of deception by exploiting the ignorance of something that the participant could not possibly know about (Waskul & Douglass, 1966).

Given the ethical implications of conducting deceitful research on the one hand, and the difficulty of obtaining informed consent by some populations on the other hand, there is currently very little agreement about how to proceed with respect to obtaining informed consent in this area. Is it enough to get approval for a vague possibility of research on human subjects? Or do subjects 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? And if so, can a researcher gain this level of specificity when they may have many types of investigation and secondary analysis in mind?

Authenticity and Consent

Unique ethical issues related to Internet-based research also occur when obtaining electronic consent and insuring its authenticity. While these issues are not unique to Internet-based research, they do tend to become more complex and, hence, more problematic when research is conducted over the Internet. 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, educational researchers who are collecting e-mails or Web forms, in a technical sense, do not have the legal weight of a signed consent form.

The general practice to date is that unless the researcher has reason to believe that the participant has an incentive to misrepresent him/herself, unsecured electronic consent forms are deemed to be an acceptable notice of consent, even though not all researchers agree with this practice. Mann and Stewart (2000), for example, share view that, as this practice is a relatively new way of obtaining consent, researchers must be prepared to rigorously support their decision.

This process should include citing other studies that used electronic consent, steps taken by the researcher to verify that the electronic consent form was sent by the intended participant (e.g., through the use of a code word), and identify any problems that may occur as a result of using electronic consent followed by aggressively defending how this will be overcome. 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 possibility of third-party interference. These services are provided at a relatively low cost through Certificate Authorities and public key infrastructure firms (e.g., 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 in order to download and learn how to use the authentication add-ons, and there is currently an expense involved for this security enhancement. Besides financial considerations, insisting on secure transmission may stress technical skills and support skills of both researchers and participants and also increase the time and commitment required by both the participants and the researcher.

Researchers who obtain consent over the Internet also have to be aware of the risk of having vulnerable populations participate in their study. As discussed above, and also by Roberts (2000), potential participants may conceal demographic details, such as age. This may 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 or parental consent. Schrum (1995) maintains that this lack of knowledge of participants alone presents a serious problem of Internet-based research. Obviously, researchers who use the Internet to obtain consent will need to acknowledge in their proposals that there are risks associated with obtaining online consent and ethics committee members need to understand the problems that can occur with this practice.

However, there are occasions when the use of the Internet is the only practical means of obtaining this consent. While attracting vulnerable participants is an ever-present possibility, the Internet also has the ability to access participants who might otherwise be unable to participate, or who traditionally may not have been able to have a voice in research projects. For a variety of reasons (e.g., geographic, disabilities, situational) researchers are sometimes not able to access specific people or populations. In certain circumstances, Internet-based research can access these populations which, in turn, provides greater inclusively. The ethical problem revolves around the following issue: Does the challenges involved in obtaining consent for certain populations and people over the Internet outweigh the possible risks of attracting unauthorized participants?

Privacy, Confidentiality, and Anonymity

Confidentiality in research refers to an agreement as to how information collected in the study will be kept secure and private (i.e., 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 access of others to information about themselves. Anonymity refers to the removal of any unique characteristics (e.g., names, addresses, affiliated institution) that would allow unique identification of participants. Respecting a participant's need for privacy, confidentiality or autonomy are ways a researcher respects their participants and is deemed a fundamental requirement of ethical practice among educational researchers.

This respect is shown most clearly by allowing the participants to share in the responsibility for decision making that effects them, and in particular to share knowledgeably in the decision to participate (or not) in a research project. To make decisions accurately and knowledgeably, the respondent must be informed of all the relevant details of the research, with an opportunity to refuse to participate. 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.

Unfortunately, it is not as straightforward or simple to uphold many of these principles when using the Internet as a research tool or communication medium during the research process. In particular, promising absolute privacy, confidentiality and anonymity may not be possible when using the Internet in the research process. Researchers need to be cognizant that other people may have access to–or may be able to access–data that is kept on an Internet server.

Hence, the same assurances for privacy, confidentiality and anonymity cannot be provided by the researcher to the research participants as compared to paper documents which are kept securely under lock and key. For example, server maintenance personnel will have access to the data that resides on the server and these individuals should be honor bound or bonded to

guard the privacy of this data. More troublesome, however, is that hackers will always 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 is collected, changing research data, or destroying data through distributed viruses. Are researchers compelled to advise participants that they cannot guarantee that the data 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 a statement that "results will be stored under lock and key in my office for a period of 12 months" as is typical language of pre-Internet research? We think researchers would be prudent to provide details of how they will attempt to provide privacy, confidentiality or anonymity.

Further, if the security of the data does become compromised, researchers will have the protection of knowing they had undertaken reasonable precautions to deal with potential security problems and avoid a great deal of embarrassment and possible legal action.

Privately-Public, Publicly-Private or Semi-Public Online Forums

Research that is being conducted in public spaces, generally, does not require the researcher to obtain consent (exceptions occur when private acts are studied in public spaces). Bulletin boards, such as newsgroups in which it is not necessary to obtain a private logon in order to post, are considered by many to be public spaces. Anyone can read newsgroup messages. Anyone can post messages to a newsgroup. In face-to-face settings, consent is not typically required of participants when research is being conducted in public spaces (as for example observing crowd behaviour at sports events).

However, applying this principle to online public spaces is difficult. King (1996) notes that

the sense of violation possible is proportional to our expectation of privacy. Most of us, for example, would not feel our privacy was being violated if we were being audio or video taped in a public space such as is done for security reasons in many transportation facilities. There would also likely be no question in the minds of ethic review committee members that voluntary and informed consent is required from each participant when data is being explicitly collected using video or audio recordings, irrespective if 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 text" on a public newsgroup? This is not an easy question to answer. Specifically, while permanently recording the transitory discourse that arises in a public space is not part of a normal public conversation, posting a 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 online communication) that makes it difficult for researchers and ethic committee members 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 diverse views (e.g., Mann & Stewart, 2000; Wilkins, 1991). Wilkins (1991) for example, cites opinions that public Internet 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 describing her own experience in a public e-mail list form for breast cancer Sharf (1999) went to considerable effort to obtain written permission from those members who's posting she quoted in her research publication, while only announcing her intent (via the list) to members

she did not quote directly. In contrast, a group of respected scholars from several countries in a very large scale project determined that "the issue of informed consent of authors, moderators and/or archiving institutions does not apply to a quantitative content analysis in which only publicly available text is analyzed" (Rafaeli, Sudweeks, Konstan, & Mabry, 1994).

It would seem the safest course of action would be to obtain participant consent, even when a convincing case could be made that such consent is not necessary. However, as was noted in the consent section, obtaining consent can be difficult with many inter-related complexities, as well as time and resource consuming, and in some instances, the acknowledged presence of the researcher may significantly alter the behavior under investigation (see Roberts, 2000; Turkle, 1997).

Thus, given that the Internet defies our understanding of public spaces in a physical sense, is online communication public or 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, publicly-private, or semi-private. As outlined in the previous section, securing access to online communication cannot be guaranteed in any absolute way; Internet server administrators and hackers may obtain access to the data.

As such, private Internet communications that occur behind passwords or firewalls can only be considered, at best, to be semi-private or privately-public. Alternatively, many e-mail lists, blogs, WIKIs and social software interest groups and newsgroups are open for the public to join, post messages, and read posted messages. However, in some instances (e.g., e-mail lists) individuals must sign-on to the group and can be removed by the list-owner. As such, some public forums are also semi-public 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, technically, the Internet is publicly accessible (unless encryption, authen-

tication and other security services are utilized.), it has been argued that all Internet activities are equally public. However, while this conclusion does provide clarity to the public-private issue, this argument breaks down when uniformly and literally applied. Consider, for example, when using Internet forums that require a password in order to communicate, there is an implied understanding that this is a private space, even though technically it is not. Or is it? Given a general lack of deep understanding by most researchers and research subjects of the technical operation of the Internet, private and public spaces on the Internet can really only be understood in terms of metaphors.

Thus, our understanding of private space can only be used 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 becomes: How should we define a social sense of privacy when privacy is a matter of individual perception and experience? While few would argue over the dichotomies that occur in terms of access (either online forum are technically secured or not), agreement continues to break down with respect to applying experience and perception of the participants.

For example, unlike other public forms of communication, we can communicate in a public online forum from the privacy of our own home or workspace. Specifically, as King (1996) observes, we have the ability to interact publicly with others from the privacy of our own homes or workspace, making it possible to redefine the online communication as private and engage in private forms of communication.

In these cases, according to King, it is misleading to assume that online communication in public forms can be considered public, and not in need of obtaining consent. Waskul and Douglass (1996) concur, arguing that such a perception is intellectually barbaric and clearly unethical. Furthermore, Waskul and Douglass note 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 online research and public forums require informed and voluntary consent.

DISCUSSION AND CONCLUSIONS

As the discussion in this chapter illustrates, strict application of existing ethical guidelines for research practice may be technically impossible and could result in practices that many would consider to be unethical. This suggests the need for teleological-based modification to the deontological, rule-based ethical guidelines established for non-networked research. Moreover, there are no clear and correct research procedures in this new environment that we can all agree are ethical under all circumstances. Consensus about ethical practices disintegrates in Internet-based research when incongruency occurs between our own perceptions, values and wishes as a researcher and those of our colleagues, ethic committee members or research subjects.

The resolution of current ethical discord will only happen after there is open and honest expression of views between members of Internet communities, research participants, and the research community. Further, we must create a research environment that allows research practices to occur and evolve, yet proscribes diligent assessment of the effect and impact of the research on participants.

This secondary agenda of every Internet-based research project should be an effort to reflectively understand and documents the ethical implications of their research. In this way, we will create a responsible and evolving teleological set of ethical guidelines that will protect participants while permitting the exploration and deep understanding of this newest form of educational research. It behooves us as well to use the powerful com-munication and dissemination of networked tools to further this public discourse.

FURTHER RESEARCH

As time and experience evolve, so too will different degrees of acceptable practice, depending partially on the nature of the research (for example when researchers examine posting lengths versus amount of personal revelation), the types of participants (students in compulsory courses vs. those participating in nonformal educational forums) and the degree of personally identifiable material being analyzed (video transcripts vs. text chat). Further and ongoing research is required to document and track these changes. Of special interest are studies of the effect of the researcher's actions themselves, in some cases treating these as the independent variables in studies designed to empirically determine the impact of researcher behaviour related to the ethical issues discussed in this chapter. We begin the search for ethical guidelines in the more familiar physical context, but as we apply and adopt these ethical practices and constraints to online activities, the imperative (and opportunity) to engage in dialogue becomes critically important.

It is clear that sustaining ethical Internet-based research must rest not only on guiding principles outlined by external committees and authorities, but also the personal integrity of the researcher. As such it is essentially up to us, as researchers, to practice ethical behavior and to share widely the ethical underpinnings of our activities. This requires technical knowledge as well as personal integrity, self-regulation, reflection and an openness and honesty about all aspects of our work.

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