Session 10 - Risk education: Teaching (and learning) about technology and uncertainty in society

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Risk education: Teaching (and learning) about technology and uncertainty in society

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Abstract

Recently heightened concerns about governmental and corporate surveillance, coupled with long-term social and psychological research on privacy, present both an opportunity and a challenge for discussions about risks and risk assessments related to national security and civil liberties, as well as discussions about the social implications of technology in general. These issues include ethics, assessing uncertainty, balancing risks, and negotiating multidisciplinary expertise. This paper contextualizes the planning, implementing, and responses to several iterations of the Honors course “Who’s watching? Media, privacy, and surveillance,” within the larger topic of pedagogical practices appropriate for examining important, but controversial, topics related to technology and society.

1. Introduction

This paper describes the case study of an interdisciplinary undergraduate discussion course that introduces liberal arts students to key concepts related to risk, technology, and society using contemporary events. Who’s watching: Media, privacy, and surveillance has been taught four times from 2003 to 2007. The debate over balancing civil liberties and national security has received heightened exposure in recent years, and it thus presents both an relevant and challenging context in which to introduce key research concepts valuable to students’ academic careers. The course catalog copy emphasizes the topic as follows: “What are the implications of corporations, governments, and individuals using technologies for surveillance and for protecting privacy? The topics we cover include surveillance technologies from the classic Panopticon to modern digital media systems such as those used in Las Vegas casinos. We examine corporate, government, and citizen uses of surveillance, as well as research representing individual concerns about privacy. Throughout the course, we use readings, resources, and lectures to help us understand different perspectives about surveillance and privacy, both pre- and post-9/11.”

2. Course challenges

A course of this type faces a combination of common and unique pedagogical challenges. The main challenges are for students to understand how research processes differ in multiple disciplines, to grapple with ambiguity, to interpret and assess the quality of primary, secondary, and popular documents as evidence, and to understand links between theory, practice, and policy. The topic of security has become highly politicized and therefore controversial, as many topics that concern risk in various forms have recently. Thus, it provides an opportunity that is both interesting to students and a subject area that is valuable to analyze with respect to academic knowledge building.

Students enter the university environment without a clear understanding of how knowledge is generated or evaluated. Developing such understanding is a key step in developing a professional academic identity. In this course, for example, students often initially make the simplistic statement that “people don’t fear surveillance unless they’ve done something illegal”; this statement provides an opportunity to discuss interpretations, evidence, and generalizing from personal experience, to name only a few options. Students find early on from the course readings that apparently simple topics are quite complex. By analyzing material from multiple disciplines that include scientific, humanistic, creative, and popular genres, the course encourages a more sophisticated understanding of its core topics.

3. Course Design

Many courses in engineering, law, and business use the case study approach to examine ambiguous social contexts, such as those involving ethical interpretations. In this course, the case studies come from multiple disciplines, and the students are encouraged to develop their own areas of specialization on the general topic...
based on their own experiences, interests and academic majors. In this sense, the design of the course is influenced by the constructivist pedagogical perspective in which students take the lead in contributing course content, the learning process is active and social, rather than passive and didactic, and the instructor’s primary role is that of a course facilitator. My use of this perspective is shaped by Dewey’s writings on democracy and the importance of citizens/students developing critical thinking and problem-solving skills [1].

3.1. Resources

The contributions from the students are balanced with texts from a wide variety of sources, including Rosen’s The Naked Crowd: Reclaiming Security and Freedom in an Anxious Age [2], which provides several public policy models for balancing civil rights and national security, Levin et al’s CTRL [SPACE]: Rhetorics of Surveillance from Bentham to Big Brother [3], which is based on a 2001 Karlsruhe museum exhibition, and the film Enemy of the State. Students discuss peer-reviewed journal articles from anthropology, sociology, criminal justice, interpersonal communication, and psychology, several of which I list in the references. Other resources include media clips about privacy, surveillance, and security.

We take advantage of site visits to the campus computer network operations center and our main research library. Because UNLV is located in Las Vegas, we are also able to benefit from local expertise in and research about casino surveillance [4]. Each site visit involves discussions about professional ethical concerns and challenges of balancing privacy and security.

3.2. Structure

The course consists of seven two-week modules structured around a key topic with texts from multiple perspectives. The class meetings alternately focus on discussing assigned texts and student presentations. The modules build on common themes; they are described in the following sections.

There are three types of assignments in this class: (1) Written responses to the readings every other week that I use to guide class discussions; (2) Several “findings from the field” reports in which each student presents and analyses an artifact relevant to the class; and (3) A final creative project/paper.

The first type of assignment is typical of courses with advanced readings, in order to encourage students to participate in the discussions. However, in this course I encourage students to cluster in small groups that then document their perspectives on the classroom whiteboards, a technique that balances public communication to the class and individual anonymity. I then place digital photographs of these group writings on the course website. The second type of assignment—the “findings from the field” report—encourages students to reflect on the course topic in light of their experiences and to practice in-class presentations. The artifacts students have brought to class have included example technologies such as cameras, clips from DVDs, photos, websites, recordings, and interviews with people in unusual surveillance situations. The structure of the creative project, which I discuss in detail later, encourages students to pursue their specific interests while deepening their understanding of course concepts.

3.2.1. Overview of topic. We read the introductory sections of each major work to identify key perspectives and learn about the broader issue of familiarizing ourselves with a new academic “terrain.” We read a popular definition of “privacy” as well as literature reviews from environmental psychology [5] and interpersonal communication [6] in order to appreciate the challenge of defining key terms. We also discuss the importance of understanding their etymology (surveillance comes from the French for “sur” [over] and “veiller” [watch]); differences between popular definitions and operationalization of concepts; key steps in developing a research agenda; and differences among disciplinary approaches in general. In order to have students gain an appreciation of different perspectives, I ask them to consider scenarios in which they are surveilling or being surveilled.

3.2.2. Architectures of privacy and surveillance. This section focuses on the structuring of surveillance—how the design of environments can facilitate or inhibit privacy and surveillance. We start with architectural theory [7], which attempts to accommodate human psychological needs in built environments, and which because of its physical nature and our everyday experience is more accessible to students than the complex and “black-boxed” technologies discussed later in the course. We then examine cultural variations in the architecture of privacy by comparing reports of social interactions in French and American households using an anthropological perspective [8]. Finally, we transition to the design of software, laws, and policies. Students contrast these different realms of design; this discussion highlights topics such as transparency and loci of control, the ability of institutions and individuals to recognize and influence surveillance practices, and the ethical responsibilities held by people involved in design practices. To start conversations about this topic, I ask students to contribute images of architectural features that influence surveillance in their everyday lives; many students use examples of room layouts or partitions from their homes or dorm rooms.
3.2.3. Big Brother: Panopticism and control. This section examines Bentham’s Panopticon, an influential model that addresses physical and psychological aspects of surveillance, and whose influence is seen in present-day theoretical and practical contexts. Students start by reading excerpts from Bentham’s original 1787 work, which describes a surveillance environment that is best known for its prison version of a central observation tower from which inmates can be observed. Although the Panopticon’s architectural form is well-known, it is the psychological aspects of self-discipline that have been most influential, as Foucault has noted [9]. Other key readings are by architect Rem Koolhaas, who describes transforming a Panoptic prison, and readings about the Stasi’s extensive use of panoptic techniques to control the entire GDR society. The Oscar-winning foreign film Das Leben der Anderen [“The lives of others’’] covers this topic poignantly.

3.2.4. Eye in the Sky: Espionage and state control. This section examines modern surveillance practices by state organizations. The primary topics are technological, institutional, and political concerns involved in state surveillance. We use the National Security Agency as an example institution, and what is publicly known about “Echelon”-type systems as an example technology. We start by examining popular representations of balancing security and privacy by viewing Enemy of the State because this film has influenced popular impressions of surveillance in the US to the extent that documentaries use it for example footage. We read key institutional reports, such as the 1999 NSA External Team Report to General Hayden, and investigative journalism articles to develop an understanding of the roles and challenges that surveillance holds in a democratic society. The readings move beyond naïve technophilia about surveillance practices towards examining institutional underpinnings and weaknesses of these practices. The key theme of this section is to examine how checks and balances operate—in this case, recent events regarding the Foreign Intelligence Surveillance Act (FISA) court provide valuable material for discussions. The role of the media in covering national security is an important topic at this point, and the widely-varying credibility of the resources available for this topic provides an excellent example of a difficult research topic for students.

3.2.5. Dataveillance, commercial surveillance, and emerging technologies. Commercial surveillance shares some techniques with state espionage but has a more immediate impact on the typical person. This section examines surveillance technologies and techniques as “black boxes” because most people do not know much about their inner workings, and poses serious questions about our ability to manage our digital identities. It also raises ethical challenges for those individuals developing the technologies. This section also discusses related law and policy issues, because legal protections tend to lag behind the ability of emerging information technologies—as students discover when they review the ACM’s online Forum On Risks to the Public in Computers and Related Systems moderated by Peter G. Neumann. Because opinion polls are often used to influence institutions, we examine challenges of using polls about privacy for making policy. To assess how awareness of commercial data gathering influences individual concerns about privacy, we examine database techniques and example data trails using the particularly effective but out-of-print documentary All About You. Then we examine public opinion polls about privacy concerns, and discuss the inherent flaws of using survey methodologies to inform public policy in this context. Students poll several acquaintances using similar questions and compare their results to recent public opinion polls. Key readings discuss the social implications of archival and distributed data storage such as the difficulty of controlling and correcting information [10], and the ready availability of data generated during the operation of many information technologies that results in “mission creep” into the surveillance arena.

3.2.6. Unintended consequences: Resistance and subversion. Creative resistance and subversion have long shaped societies, including the U.S. This section addresses concerns raised in the previous sections about loci of control regarding privacy, and it provides a foundation for students to develop their creative projects. This section uses criminologist G. T. Marx’s A Tack in the Shoe [11] review article, reports from professional and advocacy organizations, and the Karlsruhe museum exhibits documented in CTRL[Space] to generate discussions about surveillance practices. This section asks students to consider the boundaries between “acceptable” and “unacceptable” resistance, and whether resistance is influential, disruptive, or patriotic. The CTRL[Space] projects provide a sounding board for discussions about the role of art in influencing social policy: I ask students to analyze projects that they admire and dislike, and develop expectations and goals for their own projects.

3.2.7. Final project preparation and presentation. This project demonstrates, critiques, or raises awareness about a privacy issue in the form of a final academic paper and creative project in any medium. Students first write proposals that they exchange for peer review, and then develop a final project based on peer and instructor feedback. The projects are presented and discussed publicly in a science fair poster session format by the students and invited guests from the campus community at large, including the guest speakers.
4. Results

The overall results for this approach to the course are very positive. Student evaluations are high, and written comments indicate that they particularly appreciated the discussion format, focus on graduate-level standards, and the constructivist approach of incorporating students’ work in the class (particularly the “findings from the field” and the final presentations). The course covers “a lot of information that is relevant to society today” and “I learned more than I ever thought possible” as two students have noted. Most importantly, students do not feel that specific disciplinary or political perspectives are inappropriately emphasized.

But the clearest evidence of a productive class are the final projects and the enthusiastic comments about them from the guests. Recent projects have covered a wide range of topics in multiple genres, including: A content analysis of surveillance and paranoia representations in recent films; an analysis of TSA employee attitudes about airport security that found the workers to be cynical and unengaged; an analysis of the Nixon administration’s surveillance of John Lennon based on recently declassified documents that demonstrated inappropriate politicization of the FBI; a board game entitled “Beat Big Brother” that incorporated extensive rules for checks and balances; a research proposal entitled “Privacy in our Genes?” based on an examination of crowding behavior in multiple generations of Drosophila (the fruit fly); a survey of tourists that assessed their concerns about surveillance; a content analysis of MySpace web pages that found a surprisingly naïve understanding of private/public boundaries among the pages’ creators; two public service advertising campaigns testing a variety of rhetorical techniques to argue for and against broadened surveillance; and a proposal to use surveillance techniques to encourage healthy eating behaviors. These projects revisited concepts discussed earlier in the class, but each student demonstrated mastery by applying them to a new context related to their own academic major.

5. Conclusions

This case study demonstrates that a course can successfully examine risk related to a topic that is controversial for the general public, such as the balancing of civil rights and national security. Controversy that can be framed as risk both generates student enthusiasm for the topic, and provides an excellent opportunity to introduce key concepts from multiple academic disciplines. With such topics, a constructivist and highly participatory approach to both course design and in-class instruction provides a more appropriate environment for learning than traditional didactic modes of teaching that many students are exposed to in introductory courses.

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7. References