

# **Examining Personal and Cultural Assumptions about Information Technology Using a Technology Abstinence Exercise**

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## **ABSTRACT**

This paper describes an exercise in which undergraduate students were required to abstain for 48 hours from using one or more technologies that they have become accustomed to using on a regular basis (e.g., cellular telephone, video games, or Web browser). In the four class sections where this exercise was used, the students wrote journals and discussed and evaluated the experience. The students and instructors found the exercise valuable for accomplishing the goals of recognizing society's dependence on technology and trying to understand the situations of people with short-term limited access to technology. Students' journals and other subsequent reactions to the experience to show how various aspects of the educational process are addressed in the exercise. Improvements based on instructors' observations and students' evaluations of the experience are suggested.

**Keywords:** information technology, abstinence, classroom exercise, undergraduates, student journals

## **1. INTRODUCTION**

It is a commonplace observation to say that information technology has infiltrated everyday life. Along with the many advantages that are brought by new technologies, there are also many potentially negative aspects, some of which may ultimately have adverse effects on our health and well-being. The ubiquity of computers and the stunningly fast rate of change are documented in Sara Baase's (2003) book *Gift of Fire*, in which she compares the arrival of computer technology to the gift of fire that was given by Prometheus to humans in the Greek myth. Both are "awesome" technologies that have given important powers that were not previously enjoyed, while at the same time they carry the potential for previously unknown levels of destruction, either by accident or by malevolent forces. Some of the more obvious dangers include compromises to privacy and personal information, issues of reliability and safety (examples in health care and air transportation are particularly poignant), and the interruptions in critical communications, although there are countless others that could be mentioned here as well.

On the societal level, unequal access to the global technology infrastructure can result in an information deprived "virtual underclass" that may have a lasting

impact on individual personal and professional development, and contributing to the widening of societal, racial and economic gaps (Mack, 2001). Our impression as instructors in an information technology-related undergraduate major was that students may have taken for granted some of their dependence on technology and their privileged position, and further, that some of our students had probably given little thought to what the lack of technology would mean psychologically, socially, and sociologically.

Given these ethical issues and potential dangers, we set out to encourage critical thinking about these topics and to facilitate activities that would contribute to students' personal and professional growth. Critical thinking, as defined by Case and Wright, "refers to the thinking through of any 'problematic' situation where the thinker seeks to make judgment about what it would be sensible or reasonable to believe or do (Case & Wright, 1997)." Their view, which is echoed by others (see Ruggerio, 2002; Chaffee et al, 2002; Brown and Keeley, 2000), is consistent with current efforts towards the adoption of curricular exercises to encourage critical thinking across many disciplines, (currently seen commonly in but not exclusive to the Humanities and Social Sciences). According to Case and Wright (1997), "the need to reach

reasoned judgments-to think critically- arises in countless kinds of situations from problem solving, decision making, issue analysis, inquiry and other so called 'processes,' to reading, writing, speaking, and listening." We developed a course activity that we hoped would help students acquire the necessary intellectual tools, and at the same time encounter meaningful and appropriate opportunities requiring the kind of judgment involved in a critical thinking exercise.

This approach is quite different from common academic exercises in which students are asked to search for specific answers that can be found in their reading or other materials (what one might characterize as the "Where's Waldo" approach; Case & Wright, 1997; also see Handford, 1997). This review-and-recall process does not usually provide opportunities for critical thinking processes such as solving challenging problems, arriving at reasoned conclusions, establishing appropriate goals and designing effective plans of action, making informed decisions, or evaluating the logic, relevance and validity of information (Chaffee, 2002). Schwartz (1997) and others show that is quite possible to infuse critical thinking into courses by adjusting the assignments and activities rather than attaching critical thinking to curricula as an additional skill or knowledge area.

It is with these issues of critical thinking in mind that we designed the "technology abstinence" exercise. The goal of this exercise was for students to experience and examine the role and influence of a particular technology that had become familiar and routine for them their everyday lives. This was part of a larger goal to have students rethink their relationship with information technology and learn more about the hidden social and ethical assumptions and values. The assignment was designed to engage students at an emotional level as they wrestled with the processes and consequences of self-denial of a habitual, useful and pleasurable daily experience. The exercise was to give them a personal starting point in their exploration of the potential for information technology to address social problems pertaining to unequal access to technology by different segments of society.

The exercise is consistent with a wave of current pedagogical thinking and practice across many disciplines that moves the teacher out of the focus of attention and emphasizes the students as learners (for example, see O'Leary, 2002). We were particularly aware of the importance of providing a meaningful challenge to students that would be relevant and important in their daily lives, would create "dissonance with students' pre-existing beliefs", involve realistic problems, provide sufficiently rich context so that students could get fully into the situation, and would, when feasible, be chosen by the students themselves (Case & Wright, 1997). In practicing critical thinking behaviors, we hoped that students would begin to be more honest with themselves, learn to overcome confusion, take time to produce new ideas, base their judgments on evidence, acknowledge complexity and

become more intellectually independent (cf. Ruggerio, 2002, pp 47-52). We note that these were our general expectations, not all of which were intended to be measured using the processes we developed for the assignment.

We believe that this exercise could be used for a wide variety of classes including professional issues courses in information studies and computer science as well as introductory or writing courses in the Social Sciences including sociology, anthropology, and English. The course described here was an upper level elective information studies course called Critique of the Information Age.

## 2. DETAILS OF THE EXERCISE

The assignment was designed to facilitate a complete cycle of learning that included an experience, personal reflection on the experience, and classroom discussion of the experience. We intended that through these activities each student would examine and possibly modify their own values and beliefs about information and communication technologies. This exercise did not have a factual, skill-based or knowledge component that we expected them to learn, although in two of the four semesters the exercise occurred in the context of an analysis of the sociological aspects of the "digital divide." We tested some variations on the assignment in different semesters. We used several different methods of evaluation (surveys, in-class discussion, written evaluation). The amount of notice given to students to begin the abstinence varied slightly, from no advance notice to three days, and the actual time given to abstain varied from one day to two days. The main features of the assignment, however, remained the same for all four semesters.

Students were asked to choose at least one technology from the list below to refrain from use for about 48 hours, starting from the time class ended to the time the class would meet again:

Abstention List: Check all that apply:

- Cellular telephone
- Regular (land line) telephone
- Email
- Web browser (with the exception of WebCT)
- Television (all forms: broadcast, cable, VCR, DVD, etc.)
- Reproduced music (CDs, MP3s, etc.; live music OK)
- Electronic games (handheld, computer, console, arcade)
- Personal digital assistant
- Laptop computer
- Automobile (for your personal use as driver; you may ride)

We gave students some time during class to think about their decisions, but we encouraged them not to discuss

their choices with classmates until *after* they had committed themselves to one or more technologies and reported their decisions to the instructor. In a class of 30-40 students, the modal number of students who gave up each of the technologies was: cellular phone (10), recorded music (10), electronic games (10), car (8), television (8), laptop computers (6), personal digital assistants (6), and Email (2), and the Web (1).

We asked each student to keep a handwritten journal of their experiences. The emphasis on keeping a handwritten diary was intentional: We wished to use a "low tech" method of documenting experience while simultaneously avoiding conflict for those who chose to give up computer technologies that might have been used to create an electronic diary. Students also took note of times when they unconsciously reached for their eschewed technology and had to remind themselves that it was (temporarily) unavailable. We also requested that students document what they did in the time that was freed up by not using the technology in question. For example, if students chose to abstain from television, what did they do in the time that they would normally have spent in front of the tube? The instructions suggested making at least two entries a day into a diary that was anticipated to be at least one page in length.

For two of the four semesters in which we ran the exercise, we attached a brief survey (Appendix B) to the assignment sheet and asked students to complete this just before coming to class at the end of the two-day experiment.

We advised students at the start of the exercise about some of the questions we would raise in class: How did your experience relate to the concept of digital divide? Would it be easy for you permanently to give up the technology from which you abstained? Does your regular use of this technology give you any advantages over people in other parts of the world who do not have access to this technology? What would your life be like if you did not have access to some or all of the items on the list above?

### **3. REACTIONS AND OUTCOMES: EVALUATION OF THE EXERCISE**

To provide context for the evaluations that follow, note that the students who completed the exercise, many of whom were information studies majors in a relatively affluent institution, may have been used to a higher level of technology use than is the norm for many institutions and majors. By the final semester, for example, the percentage of students who carried cellular phones to class was almost 100%. For one of the semesters, only the instructor and one non-major were the only two people of 41 who did not have a cellular phone, and by the end of the semester the lone student holdout had purchased a cellular phone as well. Six out of thirty-five students in one class chose to abstain from their handheld personal digital assistants (PDA). Most of these students used web browsers, email, and instant messaging on a regular basis, and they were

therefore particularly "affected" as they absorbed the reality of completing the exercise.

We used several types of data, including surveys, student journals, and the quality of class discussion to evaluate the effect of the assignment. Students' journals, from which several excerpts are presented here, provide a window through which to view their experiences, describing self-reported compliance, and addressing some of their affective reactions to the abstinence. Results of a survey (N=55) and representative comments derived through qualitative means (N=35) provide additional insight into students' experiences with this assignment.

#### **3.1 Students' Journals**

Student journals described students' daily activities and reflected how much and in what ways technology abstinence affected personal and social life. Reflections in the journals were both rich in content and almost universally personal and emotionally revealing. The journals included students' speculation about how unequal access to technology might affect other peoples' lifestyles, life chances, and choices. The following entry, which appears in its entirety, typifies many students' reactions. It is neither the most creative nor the most insightful, but it indicative of a modal level of engagement and perception.

September 10, 2002

10:15am

I decided to start my abstinence from using my web browser when I woke up this morning around 10:00. One of the first things I do in the morning is turn on my computer to check my email, listen to music and do various things on the Internet. I quickly ran into my first dilemma of not being able to use the Internet. I wanted to check how hot it was going to be today at weather.com, but realized I couldn't. I could have watched the weather channel to find out, but I didn't want to search through the 400 [cable] channels we have to find it.

11:30am

I soon ran into my second problem of not being able to use the Internet. I wanted to take my shoes to get fixed at this shoe repair that I had been to last year. I couldn't remember exactly where it was located in downtown, so I wanted to look up the address using the online white pages. I couldn't do this, and since we do not have a regular phone book yet I was unable to get the information I wanted. I also needed to go to the bank since I lost my ATM card. I do not keep a checkbook and view my statements and balance online. I wanted to see if a check had cleared and see my balance before I got to the bank but I couldn't do this either. I was frustrated that my errands were going to take longer than necessary because I couldn't use the Internet. I realized that I like the Internet so much because I have immediate access to all the information I want right in my own room. I have high speed online so I don't even have to wait for it to dial up, and use it

often enough that I know where to look for the information I want.

I know that it would not be easy for me to permanently give up the Internet, assuming that I would continue living the same lifestyle. When I need to get information and I don't have a lot of time, the Internet is so convenient. I luckily don't have any assignments due that I need to use the Internet for, but that would probably be the hardest aspect of not having the Internet. I can't even imagine reverting back to the library as the source of all information. It would take up so much time having to go there all the time to find out simple things, like who the Luddites were. [This refers to another class assignment earlier in the semester.]

I think that my use of this technology gives me an advantage over others who do not have access to it because of the convenience of the information at hand, but I don't believe that it is a serious problem in our society. I think that all students should have access to the Internet because it enhances learning, but beyond that group I don't think that lack of Internet access is limiting people's lives. There are other ways to get information if you really want it. My mother, for example, has access to the Internet at our house but doesn't not really know how to use it and doesn't generally use it. She often needs the same type of banking information, or directions but apparently uses other methods of obtaining it. The same goes for cell phones. I get so mad when I forget to bring my cell phone some place and need to call someone but before I came to college I didn't have a cell phone and managed to get by. My mom still doesn't have a cell phone and she doesn't seem to mind. I didn't realize how dependent on technology I have become, and how it creates a mentality of wanting everything instantly.

4:30pm

When I got home from class I wanted to download a song but couldn't remember the name of it. I knew who sang it and wanted to look it up at cdnow.com but couldn't. I thought about how I used to find out the names of songs and get music before the Internet. I guess I just asked people and looked at CD's at music stores, but I also couldn't download songs in minutes like I can now. Over the summer I didn't have high speed online in my apartment so I couldn't download music. I missed not being able to get songs but there was nothing I could do about it. Since I couldn't look up the song I wanted, I spent the time cleaning up my room instead.

I also considered the amount of time I spend looking on the Internet for various things. If I had been able to look for that song I probably would have thought of a few more things that I wanted to look up and would have spent probably 45 minutes trying to find things I want to read about or buy. For me, I think that the

Internet makes me want more, and makes me want it instantly. Although it is often useful and saves time, it is also a waste of time when I sit and just look for things that I want to buy. There are so many different things to look for and so many sites to look at that it can be overwhelming. I rarely go to the mall and just look around in all the stores, but that is essentially what I do when I look for things on the Internet. The Internet can almost complicate decisions and make them harder. For example, if I wanted to buy new running shoes I could go to a store and pick out a pair I like and that fit, but I would probably spend a few hours online looking at thousands of sneakers, trying to find my favorite pair at the best price.

7:15pm

I wanted to check how many minutes I had left on my cell phone by logging onto my account at sprintpcs.com but had to call to find out instead. I also wanted to see what time Sex and the City was going to be on HBO by going to hbo.com but instead check[ed] the guide on digital cable. Although I couldn't use my first choice of technologies (web browser) to accomplish these tasks I was able to complete them using other technologies. It is interesting how technologies support and interact with one another. I don't even really consider my television, cell phone, computer, and Internet technologies because I have become so accustomed to using them. It is easy to forget that many parts of the world, and even in parts of the United States that people don't even have regular telephones. It puts not having a computer into perspective, and even more so when you consider that there are many people without the basic necessities in life. Although the divide between those have access to computers and the internet and those who do not exists, I think there are more pressing issues that are dividing our society.

For me to not have access to a computer, cell phone, web browser, and email, it would be inconvenient and difficult because I have become so dependent on these things. I think that it is hard to go from having things to not having them, but if you have never experienced something you don't know what you are missing. It would be harder for me to keep in touch with people and I think I would feel very cut off but I think eventually I would adjust. When I couldn't download music this summer I just had to buy new CD's if I wanted a song, or listen to the radio.

I think that there are so many environmental factors that impact how influential technology is on one's life. Although it is hard to remove technology from my current lifestyle, if I were to move to a completely different environment where the technology did not yet exist, I do not think it would be so hard.

One interesting finding is that the ruminations in this journal go beyond technology use, including telling

indications of the texture and preoccupations of undergraduate life. For the purposes of this assignment, however, the journal indicates the student's awareness of her technology at a fine-grained level of detail. As a result of the exercise, the student apparently had significant awareness of the role of the Internet as a convenience in her life. The student turned automatically to her computer for addresses, banking needs, and comparison-shopping. Some additional awareness of larger societal issues came about partly from her frustrations in not being instantly provided with information. Her observations about shopping on-line are particularly telling about her typical life activities. By the end, she seems on the cusp of some increased self-awareness and social reflection, although there is certainly no indication of a "breakthrough" in examination or modification of assumptions, values, or beliefs. Nonetheless, even in a journal that could be characterized as naïve in tone, this student moved toward increased awareness of technology, and some of the effects that this phenomenon has had on her mental and physical life.

An important factor in the choice of eschewed technology was the relative ease or difficulty of abstinence. We intentionally did not force students to choose a particular technology, or a particularly difficult technology, for two reasons. First, we believed that the choice process itself would serve as a topic of discussion (i.e., why a subset of the students challenged themselves while others did not). Second, following the standard motivational precepts of the goal-setting literature, we believed that letting students make their own choice would enhance commitment to their choice and, by extension, compliance. Some students chose technologies hitherto omnipresent for them, such as television or video games that they knew would be challenging to avoid. Others chose a technology precisely because it would be easy for them to give up; for example, they did not use their landline phone because they always carry their cellular phone and they could substitute that for their landline. One important factor in the difficulty or ease of abstinence was the students' anticipated schedules and assignments (from other classes) during the days of the experiment. For example, those who needed to write a research paper were loath to give up their computers for the duration.

Some of the journals included frank descriptions of compliance and "cheating," the latter including admission of guilty feelings or rationalizations about the necessity to use the chosen technology. For one student, a friend's invitation to play an electronic game on a LAN was too good to pass up. For another, finding out that a high school acquaintance was on a television show was reason enough not to comply with the full requirements of the exercise. Several students took advantage of the option to ask a friend or roommate to use their chosen technology to accomplish a task for them, but this was not widely reported and was not considered to be cheating. Many students wrote that they forgot about the assignment until several minutes into the technology use, and then "caught

themselves" and turned off the televisions or logged off of their email accounts. "I drove my car and played a CD."

Feelings associated with the abstinence were discussed, for example, feeling out of place, or "out of the loop." Many students described feeling "lost," or "stressed," when confronted with opportunities to use the technology (and some felt guilty as they had to decide whether or not to comply with the exercise.) Some felt "jittery," for example when there were messages on the cellular phone (i.e., they knew this from an audible alert tone, but avoided actually using the phone) and students were eager to check to see who had called them. One student who abstained from using her cellular phone said the exercise made her feel like she was missing something and it "literally killed me."

These admissions of non-compliance, either actual or contemplated, were accompanied by discussions indicating growing awareness of level of dependence on technology and the habitual and sub-conscious nature of that dependence. "I realize that I reach in my bag on a subconscious level and use (my CD player) as an excuse to avoid conversation." Another student said that he plays Solitaire on the computer, "to get my brain started." Video games and cellular phones were described as a "crutch" that was used to "relieve empty space." Several students gave their cellular phones to friends because, as one student said, "I don't trust myself."

Replacement of one technology with another emerged as a common theme in the journals. In a typical example, a student writes, "Wanted to call a friend of mine on the cell. Solution: IM'd [instant messaged] him on AOL instant messenger." The journal of the same student continues, "Asked someone to call someone for me, but the phone number was in my phone directory on my cell so I couldn't get a hold of him." Then, he writes, "My mom called. I had to pick it up." Avoiding answering phone calls from their mothers was often "the line" that most students refused to cross, and they did not seek a replacement technology for this activity.

Students reported becoming relieved and/or excited when it was close to the second class time because they would get a chance to use the technology again. "I can't wait to check my email after class." Many students realized how much they appreciated the technologies and planned to "make up for lost time," by, for example, playing many hours of video games after class.

### **3.2 Results of Survey**

Attached to the instructions for the assignment was a brief survey using a 5-point Likert scale (with 5 meaning strongly agree and 1 strongly disagree) and students were asked to complete it before coming to class (See Appendix B). The results of that survey and the means of the responses are presented here. Although we recognize that the means are only crude indicators, we include them here to try to illustrate in summary form the emotional charge of the assignment (the first six questions) and the criteria to

evaluate the assignments' future use (the final five questions).

Based on an examination of these means, students found the experience of technology abstinence frustrating, disagreed about the experience being pleasant, and very were tempted to use the technology. Unlikely to consider permanent abstinence, the students nonetheless recommended that the assignment be used in future semesters.

**Table 1: Summary of Survey Results**

Item	Mean
I felt frustrated at least once by having to abstain from this technology.	4.09
I felt angry about having to do this assignment.	2.67
Avoiding this technology was a pleasant experience	2.35
I was tempted to use this technology even though I knew I shouldn't.	4.00
I felt grouchy because I could not use this technology.	2.91
I felt isolated from others because I had to avoid this technology.	2.95
Talking to others about this assignment was fun.	3.30
I spent a lot of time looking for other activities to replace the use of this technology.	2.87
My friends/roommates thought I was weird for not using this technology.	2.85
I would recommend this assignment for students in future classes like this.	3.73
I would consider eliminating this technology from my life permanently.	1.40

Due to the relatively high admissions of non-compliance in the journals and discussion, we were particularly interested in responses to the question "I was tempted to use this technology even though I knew I shouldn't," which had a mean of 4.0. We found that 9.1% strongly disagreed, 7.3% disagreed, 58.2% agreed, and 25.5% strongly agreed. This result indicates frankness in their responses in that they were willing to confess to an attitude that they knew did not reflect well on their self-control. Most students reported that they would at least feel tempted, and at most not be able to comply, with the instructions to abstain even if they had sincerely committed themselves and planned to complete the assignment. Further explanation in the journals confirmed this suspicion and lead to our speculations that the ones who were reluctant to abstain may have chosen technologies that they rarely used anyway or were fairly easy for them to avoid given their schedules.

### 3.3 Student Evaluations of Exercise

We asked students directly about the impact and usefulness of the experience. At the end of one semester, about two

months after completing the technology abstinence exercise, the participating students were asked to write an anonymous evaluation of their reactions. Student reactions were generally positive, and they said that the exercise succeeded most of all in helping them to rethink their relationship to and their dependence on technology:

"I took the assignment seriously, and I found it a good learning experience. It made me realize how much I rely on technology and how much it has affected my life... You may have people that fake it, but I think it is interesting enough where people would be up for the challenge to see if they could do it. That's why I did it."

"I wanted to see if I could actually do it (and it was very hard to do!)"

"The assignment was certainly different from any other assignment that I have completed so far here."

"I liked the assignment. I think that it was a different pro-active approach to learning. I did not find doing the assignment a burden, unlike most of my projects. I think that it taught the class how dependent in today's society we really are."

"I learned from this experience. Prior to the assignment, I did not realize how much a part of my life technology played a part in. The frustration I had during the assignment showed me how dependent I actually am on the benefits of technology."

"I think I learned a lot from doing this assignment. It helped me appreciate what technology has to offer. I think that I took for granted having such easy access to technology. I didn't watch television for two days, and I think it made me believe how valuable technology is but also that we may rely on it way too much."

There were some admissions of guilt from non-compliance, or defined by the students as "cheating," but in some cases that served to further reinforce the idea of dependency and ubiquity of these technologies.

"I thought the assignment was an interesting idea, and should be continued. To be honest, there were times where I "cheated" a bit during the time I was supposed to be abstaining. But, even though I cheated, the assignment still worked in making realize just how dependent we have become on certain technologies. I still feel like I benefited and it should be continued."

"I think this assignment helped to show how much we take technology for granted. It really is engrained [sic] into our daily lives and without it, we would have a lot of trouble succeeding in a country like ours... It was a very difficult task, abstaining from part of our daily routines. Although I slipped up once and used what I

wasn't supposed to, I came away from technology with a different point of view."

The assignment also helped to introduce the concept of the digital divide, and students explained that they revisited those feelings of frustration when they were denied access:

"I think that the assignment was valuable simply because it gave me the opportunity to think about the digital divide and how the absence of technology impacts peoples' lives. For me, the absence of my chosen technology was simply a small nuisance. However, the assignment made me reflect on how it can have large and drastic impacts on the lives of others."

"I think the assignment was interesting because few people are aware of how dependent we are on technology. When asked to give something up, it was extremely difficult because we were so accustomed to those technologies. It went to show you that as Americans, we are very spoiled because some people live without electricity, let alone technology."

"The assignment was definitely worthwhile. I think it should be one of the earlier assignments for this course because it helped me to remember certain feelings when we would have discussions on what our lives would be like without certain technologies."

Negative reactions to the assignment were that some students found it better in theory than in practice:

"I found this kind of useful but would not recommend it for future classes as I found it somewhat childish and interesting but not as useful as I think you might have thought it to be."

"The only difficult part is making the students actually participate in the activity since it was easy to make things up. Maybe if not as much time was given to get the assignment done, more people would be forced to actually abstain from something."

"The idea is great, and if done properly it is a very valuable experience. A lot can be learned. However, the flaw is seeing whether or not students actually follow through with it, and complete a real non fictional journal."

Others downplayed the impact of the assignment on them, some because they said they are not dependent on technology so it was not difficult for them.

### **3.4 Instructors' Impressions and Class Discussions**

The classroom discussions that resulted from this exercise were spirited and interesting in each of the four sections that we conducted the exercise. The discussion sessions began with the instructors assuring students that they understood that some students were not able to complete

the assignment, and that it was "OK." Those students were encouraged to share in the discussion without onus. We thus attempted to defuse students' concerns about negative evaluation for compliance failures so that they would freely report on their experiences.

The discussion ranged among both emotional and rational aspects of their experiences. Discussions often touched on the topic of addiction, emotional dependence, and general lack of wellness in the typical student lifestyle, with students debating the health effects of their technology-related stress-relieving behaviors. While some students agreed that it might be healthier to exercise or talk with others about their stress, some maintained that activities such as video games or checking email and reading friends' "away messages" on Instant Messenger services were healthy and realistic methods of stress relief.

Another positive aspect of class discussion was that students went further in addressing the digital divide questions. They engaged in lively and sometimes emotional debates about the differences in technology access between industrially developed societies and other societies. Students also spontaneously raised the notion that such divisions and related obstacles to information access both with the United States as a society and also within the university itself. The topic of students' computer ownership or lack of access to computers as they grew up brought in a personal perspective and led to fruitful discussion of race and class distinctions in relation to technology (all four sections of this class were racially diverse). Students in one class acknowledged that when the topic of the digital divide comes up, they feel as though they are automatically "guilty" and there is an implication that their moral responsibility as IT professionals should be to find ways to donate computers to poor communities in order to help close that gap. With some prompting from the instructors, discussion of the limitations of computer donation as a solution to technology access differentials and the suggestion of alternatives was encouraged, and the discussions concluded with a positive tone.

To close the classroom discussions after the exercise, we asked students if they would contemplate permanently removing the technology from their lives. Technology abstinence on a more permanent basis was a thought that few relished. "I would go crazy" if I had to abstain permanently. "I can't give technology up."

### **4. STUDENTS SUGGESTIONS ABOUT HOW THE ASSIGNMENT WAS CRAFTED AND CARRIED OUT**

Several observations related to the timing of the exercise. Some thought the exercise was done too close to finals, at which time students like this one feel that they "need all the technology [they] can get to help." Another suggestion was to complete the assignment during the first few weeks of the semester because it makes a strong impression and provides a good perspective from which to view related

topics, such as the “digital divide,” that came up frequently throughout the semester.

The journals revealed that students did not always follow our advice to choose technologies from which avoidance would be difficult. One suggestion, although not one that students gave, might be for them to commit to the technology that would be most difficult for them to abstain from and then explain the parameters of the assignment.

A surprising recommendation from students was to try to increase the impact of the assignment by making it longer or more difficult. Suggesting more time, one student wrote “giving it up for 72 hours might foster more impact on a person if they give up something they really like.”

One student went about the assignment a bit differently (which may have been an excuse for non-compliance). He chose all of the technologies and then saw what “lasted the longest.” He was surprised at how quickly his list of indiscretions grew long. It does suggest that the assignment could be done slightly differently, for example, by counting of numbers of times each technology is used in a given time period rather than trying not to use it.

Other suggestions were to check for classmates’ compliance, with one way being to have two or three close friends fill out a questionnaire about the student’s behavior or mood changes during that time period. However, this approach might alter the atmosphere of trust, so it should probably remain optional.

#### **5. INSTRUCTORS’ REFLECTIONS ON HOW THE ASSIGNMENT MIGHT BE ALTERED AND/OR IMPROVED**

Non-compliance appeared as a central issue of concern, although not necessarily one that should be rectified through attempts to ensure better compliance. Non-compliance on the part of some students might have negatively affected the non-compliant student’s learning, but also may have affected the quality of class discussion. Further, non-compliance among some might have raised questions of fairness among those who complied rigorously with their commitments.

The issue of non-compliance might be addressed by approaching the exercise “cold”, with little advance notice aside from the title of the exercise. In one of the four sections this approach worked well: The class met on a Monday-Wednesday schedule, so students were told about the details of the exercise on a Monday and asked to commit themselves to two or three of the technologies during that class (i.e., rather than allowing them to choose after class).

Another problem that could arise from this assignment is that students’ safety or ability to complete other schoolwork would be compromised. In these classes, students were told explicitly to make sure that they chose a

technology that would not put them in physical danger and that would not disrupt their efforts for other classes.

We felt that the importance and purpose of the real-time diary needed to be stressed at the outset to a greater degree than we accomplished. Some students in this exercise admitted that they did not do the diary throughout the experience, but rather constructed it from memory near the conclusion of the exercise: “Although what I wrote about was true, I didn’t write my journal at different times, I sat down and wrote it all at once. This may have affected the way it turned out, but I did try to keep it as accurate as possible.”

Finally, the students might have gained more from the exercise if they had been able to reflect more on their technology access relative to people elsewhere and with different sociological characteristics. Asking the students to conduct some basic research about Internet access, for example, and rating themselves based on a “technology benchmark” might be useful for showing them how they measure up in technology availability and help them further reflect on their own situations.

#### **6. CONCLUSION**

The students and instructors found the exercise valuable for accomplishing the goals of recognizing society’s dependence on technology and trying to understand the situation of people with more limited access to technology than themselves. The instructors valued the quality of the discussion and reflection shown by the students. Due to its accessibility, the assignment appeared to “grab” students in different ways than most other class exercises of the semester. The students demonstrated both emotional and intellectual engagement in issues of their own short-term abstinence experience and ways in which their interaction with information technology on a daily basis is connected to larger societal inequalities and potential negative consequences of those technologies.

#### **7. ACKNOWLEDGEMENTS**

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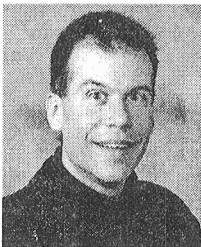
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**Appendix A. Instructions for Technology Abstinence Exercise**

Technology Abstinence Exercise

IST 443 – Critique of the Information Age

Jeffrey Stanton

The goal of this exercise is to experience and examine your everyday life in the absence of a particular technology that has become familiar and routine for you.

Instructions

1. Choose at least one technology from the list below; I encourage you to choose more than one. Note that you must abstain from using this technology altogether until class time on Wednesday. Choose a technology that you use regularly. Choose a technology that will be inconvenient for you to avoid. Do not choose technology for which abstention will put you or others in danger of personal safety (e.g., don't choose your car if you use it to drive to school through an area dangerous to pedestrians).

Abstention list; Check all that apply:

- Cellular telephone
- Regular (land line) telephone
- Email
- Web browser (you may use WebCT to prepare Wednesday's CR)
- Television (all forms: broadcast, cable, VCR, DVD, etc.)
- Reproduced music (CDs, MP3s, etc.; live music OK)
- Electronic games (handheld, computer, console, arcade)
- Personal digital assistant
- Laptop computer
- Automobile (for your personal use as driver; you may ride)

2. Keep a handwritten diary of your experiences. Take note of times when you unconsciously reached for the technology and had to remind yourself that it was (temporarily) unavailable. Document what you did in the time that is freed up by not using the technology. For example, if you chose to abstain from television, what did you do in the time that you would normally have spent in front of the tube? Make at least two entries a day into the diary. The diary should be at least one full page.
3. On Wednesday, at some point before class, complete the survey on the other side of this page.
4. Come to class on Wednesday prepared to discuss your experiences over the previous two days. How does your experience relate to the concept of digital divide? Would it be easy for you to permanently give up the technology from which you abstained? Does your regular use of this technology give you any advantages over people in other parts of the world who do not have access to this technology? What would your life be like if you did not have access to some or all of the items on the list above?
5. After our discussion on Wednesday, please hand in this sheet, with the completed survey on the back, stapled to your handwritten notes.

**Appendix B. Survey Sheet**

Technology Abstinence Survey (complete just before class discussion)

Think of the technology or technologies from which you abstained over the past couple days as you indicate your level of agreement with the following statements. Circle just one response for each item.

- |    |                                                                                           |          |         |       |                |
|----|-------------------------------------------------------------------------------------------|----------|---------|-------|----------------|
| A. | I felt frustrated at least once by having to abstain from this technology.                |          |         |       |                |
|    | 1                                                                                         | 2        | 3       | 4     | 5              |
|    | Strongly Disagree                                                                         | Disagree | Neutral | Agree | Strongly Agree |
| B. | I felt angry about having to do this assignment.                                          |          |         |       |                |
|    | 1                                                                                         | 2        | 3       | 4     | 5              |
|    | Strongly Disagree                                                                         | Disagree | Neutral | Agree | Strongly Agree |
| C. | Avoiding this technology was a pleasant experience.                                       |          |         |       |                |
|    | 1                                                                                         | 2        | 3       | 4     | 5              |
|    | Strongly Disagree                                                                         | Disagree | Neutral | Agree | Strongly Agree |
| D. | I was tempted to use this technology even though I knew I shouldn't.                      |          |         |       |                |
|    | 1                                                                                         | 2        | 3       | 4     | 5              |
|    | Strongly Disagree                                                                         | Disagree | Neutral | Agree | Strongly Agree |
| E. | I felt grouchy because I could not use this technology.                                   |          |         |       |                |
|    | 1                                                                                         | 2        | 3       | 4     | 5              |
|    | Strongly Disagree                                                                         | Disagree | Neutral | Agree | Strongly Agree |
| F. | I felt isolated from others because I had to avoid this technology.                       |          |         |       |                |
|    | 1                                                                                         | 2        | 3       | 4     | 5              |
|    | Strongly Disagree                                                                         | Disagree | Neutral | Agree | Strongly Agree |
| G. | Talking to others about this assignment was fun.                                          |          |         |       |                |
|    | 1                                                                                         | 2        | 3       | 4     | 5              |
|    | Strongly Disagree                                                                         | Disagree | Neutral | Agree | Strongly Agree |
| H. | I spent a lot of time looking for other activities to replace the use of this technology. |          |         |       |                |
|    | 1                                                                                         | 2        | 3       | 4     | 5              |
|    | Strongly Disagree                                                                         | Disagree | Neutral | Agree | Strongly Agree |
| I. | My friends/roommates thought I was weird for not using this technology.                   |          |         |       |                |
|    | 1                                                                                         | 2        | 3       | 4     | 5              |
|    | Strongly Disagree                                                                         | Disagree | Neutral | Agree | Strongly Agree |
| J. | I would recommend this assignment for students in future classes like this.               |          |         |       |                |
|    | 1                                                                                         | 2        | 3       | 4     | 5              |
|    | Strongly Disagree                                                                         | Disagree | Neutral | Agree | Strongly Agree |
| K. | I would consider eliminating this technology from my life permanently.                    |          |         |       |                |
|    | 1                                                                                         | 2        | 3       | 4     | 5              |
|    | Strongly Disagree                                                                         | Disagree | Neutral | Agree | Strongly Agree |

**Appendix C. Discussion Guide for Instructors**

1. How did it go? What can you tell us about your experience? What did you abstain from and what happened?
2. What was the most interesting thing about your technology abstinence experience? How about the most enjoyable? The most frustrating? What other emotions did you experience?
3. How did you feel about the assignment while you were doing it and how do you feel about it now?
4. Did you talk to anyone about the assignment? Who did you talk with and what did you tell them about it?
5. Was there any reaction from your friends? Parents? Coworkers? Anyone else? What was their reaction, if any?
6. How did your experience relate to the concept of digital divide?
7. Would it be easy for you permanently to give up the technology from which you abstained? What might inspire you to do so? How might you be able to accomplish it?
8. Does your regular use of this technology give you any advantages over people in other parts of the world who do not have access to this technology? In what ways? What evidence do you have that it does or does not?
9. What would your life be like if you did not have access to some or all of the items on the list above?