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**Colloquial Connections:
Women's Informal Learning on the Internet**

by

Carletta Simone Shannon, B.A.

**A thesis submitted to
The Faculty of Graduate Studies
in partial fulfillment of
the requirements for the degree of**

Master of Arts

School of Journalism and Communication

**Carleton University
Ottawa, Ontario
May 2002
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Faculty of Graduate Studies and Research
acceptance of the thesis**

“Colloquial Connections: Women’s Informal Learning on the Internet”

submitted by Carletta S. Shannon, B.A

**in partial fulfillment of the requirements for
the degree of Master of Arts**

Thesis Supervisor

Chair, School of Journalism and Communication

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May 8, 2002*

Abstract

By employing a qualitative methodology, this study seeks to understand the meaningfulness of the online experiences of eleven women between the ages of 18 and 35 living in the province of Ontario. It demonstrates that the participants have a positive attitude towards the Internet as a tool for informal learning. This thesis describes how the interviewees use information on the Internet to learn about hobbies, cultures, gender roles, customs and traditions, to develop skills and to achieve career goals. Finally it illustrates that women can appropriate the meaning of masculine technical networks to use cyberspace for their individual educational purposes through interpretive flexibility. This refers to the concept that the meaning of an object is ambiguous and therefore subject to various interpretations and uses.

Acknowledgments

A thesis is a collaborative work that requires the efforts of several people to reach completion. I would like to thank my supervisor, Karim Karim, for his assistance throughout this process. His positive energy and invaluable advice were vital in guiding this research to conclusion. I would also like to thank Michele Martin and Andrea Martinez for their input and interest in this endeavor. Thank you to Sheryl Hamilton who inspired me to apply for graduate studies. Your interest and encouragement were much appreciated.

As always, I am grateful for the love and support of my family whose messages from across the miles never fail to buoy my spirits. Finally and most importantly I would like to thank my husband, James Moody for being my biggest supporter. What I will remember about this year is your constant optimism, love and words of encouragement. I will cherish memories of late nights working on our theses as we finished yet another chapter together.

Contents

1. Women Online: Learning Beyond the Classroom	1
2. Literature Review	5
2.1 Access	5
2.2 Context	13
2.3 Communication	22
2.4 Conclusion	27
3. Research Design	28
3.1 A Qualitative Paradigm	28
3.2 Ethical Conduct	31
3.3 The Role of the Researcher	32
3.4 Criteria for Participating	33
3.5 The Recruitment Process	34
3.6 The Participants	35
3.7 The Interview	36
3.8 Data Analysis	37
3.9 Eleven Female Internet Users	38
3.9.1 Megan	38
3.9.2 Elizabeth	39
3.9.3 Jane	40
3.9.4 Erica	40
3.9.5 Julie	41
3.9.6 Jennifer	42
3.9.7 Bai	43
3.9.8 Lena	43
3.9.9 Alicia	44
3.9.10 Rebecca	45
3.9.11 Lisa	45
3.10 Conclusion	46
4. Cyberspace Connections: Through the Eyes of Female Internet Users	47
4.1 Access: Connection, Isolation and Balance	47
4.1.1 Connection	48
4.1.2 Isolation	52
4.1.3 Balance	54
4.1.4 Home Access: Ideal Conditions for Learning?	55
4.2 Quality of Access	58
4.2.1 Feelings about Technology	58
4.2.2 Image of the User	62
4.2.3 Usability	65
4.2.4 Support	66
4.3 Technology and Education: Compatibility or Conflict?	67
4.4 Context	73

4.4.1 Security.....	73
4.4.2 Political Organization.....	75
4.4.3 Entertainment.....	76
4.4.4 Education.....	77
4.4.5 Information.....	79
4.5 Information = Education?.....	80
4.6 Informal Education vs. Formal Education.....	81
4.6.1 Learning About Cultures.....	84
4.6.2 Hobbies.....	86
4.6.3 Gender Roles.....	89
4.6.4 Career Goals and Achievement.....	90
4.7 Communication.....	92
4.8 Summary.....	94
5. Analysis and Discussion.....	95
5.1 Interpretive Flexibility.....	95
5.2 Access.....	103
5.3 Cyberspace: A Place for Informal Learning.....	105
5.4 Context.....	106
5.5 Communication.....	110
5.6 Summary.....	110
6. Conclusion.....	112
6.1 Contributions and Limitations of the Study.....	112
6.2 Generalizability.....	114
6.3 Remembering Specific Examples.....	115
6.4 Researcher's Knowledge.....	116
6.5 Internal Validity.....	116
6.6 Recommendations.....	117
6.7 Suggestions for Future Research.....	118
6.8 Summary.....	119
Bibliography.....	121
Appendix A: Informed Consent Form.....	128
Appendix B: Information Letter for Interview Study.....	129
Appendix C: Interview Guide.....	131

List of Figures

Figure	Description	Page
1	Meaning of the Internet	97

List of Appendices

Appendix	Description	Page
A	Informed Consent Form	128
B	Information Letter for Interview Study	129
C	Interview Guide	131

1. Women Online: Learning Beyond the Classroom

New communications and information technologies are always potential new learning technologies. If used appropriately, they offer the prospect of enhanced and more accessible learning, education and training. These prospects are particularly significant for women who rely on flexible arrangements, such as part-time studies, open and distance learning and community based programs for both formal and non-formal learning (CCLOW, 1997, p. i).

This thesis examines the colloquial connections that eleven women make to the Internet. There are three objectives of this study.

1. To investigate women's attitudes toward the Internet as an informal educational tool.
2. To describe the ways in which the women use cyberspace as a place for non-formal learning.
3. To uncover the meaningfulness of the participants' online interactions by exploring how the interpretive flexibility of technological artifacts such as the Internet allows women to appropriate technical networks for their own purposes.

Informal or non-formal learning is learning that takes place outside of settings that are designated for formal educational purposes such as universities, colleges and schools. This type of learning can occur in environments such as the home, work, or community groups. *Interpretive flexibility* is the concept that users of technology can interpret the meaning of various technological artifacts in different ways and use it in ways that the designer did not intend.

Women have been encouraged to engage technology and use the Internet in an effort to alter the historically uneasy "gender-technology relation." Feminist researchers maintain that only through this kind of interaction will women be able to challenge masculine technical networks. Consequently, this thesis will attempt to discover whether

women use the Internet for informal educational purposes and, if so, the nature of these connections in their lives.

Chapter two surveys the literature in the areas of feminist studies of women and technology, studies of the Internet and educational experiences, and feminist theories of learning. It describes how the three fields of research are linked through the three main themes of access, context and communication.

Chapter three discusses the research design employed for the thesis. It explains that taking a qualitative approach allows the researcher to investigate the “meaningfulness” of women’s use of the Internet. The chapter also justifies the use of a feminist theoretical framework due to its ability to capture the diversity of women’s experiences. It recognizes the fact that a variety of circumstances can oppress women’s use of the Internet.

Chapter four describes the participant’s interpretations of their use of the Internet. It illustrates how the mean of the Inter in each woman’s life is shaped by their attitudes towards Internet access, quality of access, the context in which they view cyberspace, and the communication choices they make. The chapter demonstrates that while women may not label their interactions as “informal education,” they go online to learn in settings not specifically designated for education. Chapter five analyzes the women’s interpretations of their online experiences. It identifies the linkages between the literature and the women’s accounts of their interactions with technology and the Internet.

Much of the research on women and the Internet has focused on barriers to access and how women have utilized online “networks” to organize for political purposes. The emphasis on women’s appropriation of technology for political purposes may be due to

the fact that these women are more visible and vocal in cyberspace. Although the use of the Internet by these women's groups is a powerful example of how female users can appropriate technology through interpretive flexibility, there are additional uses that demonstrate the strength of their interaction with technology and cyberspace. This thesis will focus on women's use of the Internet for informal educational purposes. While most of the studies have focused on describing the activities of women, this study seeks to uncover the "meaning" behind their usage of the Internet.

This study will contribute to the field of mass communication studies in three main ways. It adds another dimension to feminists' campaign for Internet access. It also creates an image of the female Internet user that moves beyond studies that portray women as either experts or victims of technology. Finally it fills a gap in the research that has failed to explore the "meaningfulness" of the Internet in women's lives.

The interviews with the eleven participants highlight their use of the Internet for informal educational purposes. The data demonstrate the self-awareness and negotiated use that women employ when engaging with technology in general and the Internet in particular. They make an effort to strike a balance between connection and isolation and are conscious of how their knowledge and skill as a user can impact their online experiences. Although the women share common characteristics, the Internet means something different for each participant depending on her attitude toward access, the quality of her access, the context in which she views the Internet, and her communication choices. While the majority of the women describe several instances of using the Internet for informal educational experiences they have a tendency to see the Internet in an "informational" context. Many of the women feel that technology and education are

compatible. Nonetheless, their concerns about the reliability of technology and their desire to maintain a balanced use of technology means that they call for a limited, appropriate use of technology in education. Not surprisingly, they apply the same philosophy to their own use of the Internet. While many of the women discuss their use of Internet networks to connect to family, friends, and co-workers and describe being part of online networks through which they receive information, few of the women mention instances of expressing their “voice” in cyberspace. Instead, they keep their identities unknown and voices silent on the Internet in an effort to ensure personal safety. Many of the women express that this is simply “smart” use of the Internet.

Although many of these women think of their colloquial connections in an informational context, this thesis provides evidence that they are enhancing their lives through online informal learning. Cyberspace provides female Internet users with information that aids them in learning about various aspects of their lives including hobbies, cultures, customs and traditions, and careers.

While this study makes contributions to the field of communication research, their significance is limited by the size and scope of the purposive sample. The criteria for participation were such that the women had to be from Ontario, be between the ages of 18 and 35 and have access to the Internet for at least five hours per week at home, at work during non-work hours, or in a public location. Consequently while I looked at each woman’s individual circumstances, the group of women itself is not varied enough and is far from representative of the population. Most of the women are educated, have a desire to use technology, have the time to use it, and have had some contact with technology in their formal education.

2. Literature Review

This study cannot investigate women's Internet use without addressing the broader category of technology. We must be careful to distinguish between technology as a system and the products of technology, or technological artifacts. Although the social constructivist view of technology taken in this study tends to focus on the meaning of technological artifacts, this emphasis is placed within the context of society (Faulkner, 2001). Consequently the dictionary definition of technology as "knowledge or use of the mechanical arts and applied science" (Thompson, 1996, p. 936) does not adequately capture the complexity involved when the products of scientific knowledge are introduced to humans. Rather than looking at the Internet as a lone technological artifact, this thesis will view it as part of a "system" (Franklin, 2000, p. 12). According to Ursula Franklin, technology "entails far more than its individual material components. Technology involves organization, procedures, symbols, new words, equations and most of all, a mindset" (ibid, p. 12). As a result, this study will investigate women's attitudes toward the use of cyberspace for non-formal learning by exploring their feelings toward technology in general and the Internet in particular. It will also examine their attitudes toward the compatibility of this technology with education.

2.1 Access

The notion of access as the "right to use" is a theme that arises in studies about women's experiences with technology in general, the Internet specifically and education (Thompson, 1996, p. 5). By examining the barriers that women may face in accessing

these realms, I will build a background against which I can discuss women's attitudes towards the Internet as an informal educational tool.

Researchers have interpreted the problem of women's access to technology in a variety of ways depending on their specified views of gender. Those theorists who maintain that gender is equivalent to sex take a "positivistic or technicist" view which claims that women's access to technologies is differential (Bryson and de Castell, 1995, p. 16). They argue that women's differential access to technology can be "improved" by altering women's attitudes towards technology and by increasing their presence in technical education and careers. They suggest that parents and teachers need to actively encourage girls to use technology beginning at a young age because increased exposure will lead girls, and then women, to have a more positive attitude towards technology (Fletcher-Flinn and Suddendorf, 1996; Shashaani, 1997; Heimrath and Goulding, 2001). As well, they maintain that educators should remove barriers to the education of women in technical fields such as computer science and engineering through various initiatives. These initiatives include increasing the number of female mentors and role models, making women feel more confident about their interactions with technology, and attempting to create a more comfortable classroom climate for female students in technology and science (Pearl et al., 1997; Shade, 1996; Zuga, 1999; Short, 1998).

Critics maintain that initiatives to increase the presence of women in fields of science and technology have been largely unsuccessful as women have failed to "make their mark" in these types of occupations (Cockburn, 1999, p. 124). Some feminist theorists criticize the idea that women need more confidence in their relationship with technology and instead suggest that women are not "failing" but rather are "on strike"

(Cockburn, 1999, p. 127). These researchers take a social construction view of equity that claims that gender is “socially constructed and historically contingent” (Bryson and de Castell, 1995, p. 18). They maintain that women are choosing not to participate in the masculine culture of technology because it does not accommodate a “diversity of styles” and therefore tends to exclude many women (Turkle, 1988; Millar, 1998). Therefore, these researchers suggest creating a more inclusive culture that will allow women to feel more comfortable using new technologies (Harcourt, 2000).

In this project I will argue that gender is “a system of social relations that are continually renegotiated, both at the level of daily interaction and at the level of the broader social structures” (Hayes and Flannery, 2000, p. 15). I will take a poststructural approach in that I will stress understanding how “individual women respond to their unique and particular experiences of oppression,” and will recognize the way women are oppressed and privileged but at the same time understand that these experiences continually change depending on various contexts (Hayes and Flannery, 2000).

In order to comprehend the potential of women to use cyberspace as an informal educational tool, I must first examine the issues surrounding women's access to Internet technology itself. These access issues include physical contact with technology, knowledge and training, perception and attitudes, and leisure time.

In the past, one of the main issues that women wanting to enter cyberspace faced was physical access (Spender, 1995). However, with the rise of public access initiatives and the decreasing costs of Internet technology, women have begun challenging the digital divide. Depending on their geographic location, women are either catching up to their male counterparts or surpassing them with regards to Internet use (Novatris, 1999,

October 14; CBC News Online, 2001, March 26; WebCheck, 2001, April 4; Nielsen NetRating, 2001, May 17; USA Today, 2001 June; South China Morning Post, 2001, July 4). According to one study, women are prepared to go to greater lengths to obtain Internet access by using access points outside the work and study environments (Heimrath and Goulding, 2001, p. 132). Nevertheless, many feminists argue that although women are increasingly gaining access to Internet technology, they are using their access much less than males (Sutton and Pollock, 1997b).

Feminist researchers have argued that this under-utilization of physical access can be attributed to women's low confidence in dealing with technology that they feel can be rectified with training and knowledge. They maintain that training is important to help women navigate their way through cyberspace and support their communication on the Internet (Shade, 1996; Kalda, 2000). Some researchers have suggested that women-centered training should be required in order to address the sometimes-uncomfortable relationship that women have with computers by demystifying the technology. They argue that women-centered training provides women with a supportive environment that strives to increase their confidence and motivation to use computers (Short, 1998). However, other feminist theorists warn that having women-centered training could reinforce stereotypes about female Internet users (Shade, 1996).

According to some communication researchers, women "do not always have a positive perception of the Internet" (Heimrath and Goulding, 2001). The reasons for this negative view are related to the notion that cyberspace is dominated by a culture of masculinity that includes male monopolization of discussion lists and bulletin boards and the harassment of female users (Kramarae and Taylor, 1993; Spender, 1995; Herring et

al., 1995). Consequently, some feminists argue that women need to find relevant content, and learn to use “computers as tools for their own purposes” (Sutton and Pollock, 1997a).

Women's access to the Internet is also limited by the amount of free time that women have. Feminist researchers contend that female Internet users need the time to “explore, experiment and to develop a clear understanding of what the Internet has to offer” (Osted, 2000). However, studies have shown that women have less leisure time than men, and male users are felt to have a greater exposure to the Internet through their work (Heimrath and Goulding, 2001, p. 129).

Although there is limited research on women's access to the Internet as an informal educational tool, some researchers have investigated women's experience with cyberspace in formal educational settings (Fletcher-Flinn and Suddendorf, 1996; Ni, Kirkup, and Hodgson, 2001). These studies have shown that women's attitudes and basic skill level may play an important role in their access to cyberspace in formal educational settings. However, the cost of engaging in formal learning on the Internet may be a barrier for many female students (CCLOW, 1997).

Some female students have expressed a positive attitude towards the Internet as a formal educational tool, finding it “useful for course study and research” (Li, Kirkup and Hodgson, 2001, p. 424). However, researchers report that women students experienced problems with searching for information online. These problems include getting lost, too much irrelevant material, and ineffective use (Heimrath and Goulding, 2001; Li, Kirkup and Hodgson, 2001). Even female students have expressed more frustration than their male counterparts when searching for information in cyberspace, they expressed a willingness to use the Internet if they were more knowledgeable about it (Li, Kirkup, and

Hodgson, 2001). This indicates that women students may need more training in order to access education on the Internet.

Communication researchers argue that formal online learning has the potential to either enhance or eliminate women's opportunities for access to education. It could enhance women's education, which often depends on the use of part time and flexible learning, by increasing access to learning for distance education students. However, "in 1994 only 19% of the 400,000 distance learners were using an information technology-based medium, such as teleconferencing, the Internet, or multi-media" (CCLOW, 1997, p. 9). While many education providers are heralding the use of new learning technologies, other express the concern that

the use of new learning technologies, because of limited availability, high cost, or displacement of more flexible programs, could in fact reduce access to learning for those who are most dependent on part time and flexible program (1997, p. 9).

Consequently, women could have less access to formal education than ever before because of the Internet and other new communication technologies. But what about informal educational opportunities? Does the Internet increase women's access to informal learning experiences?

Women have experienced numerous barriers to accessing education that fall into the categories of physical access and social access. According to some researchers, issues of physical access include the "availability of learning at times and place suitable to the learner" (CCLOW, 1997, p. 7). The fact that many women have to balance home responsibilities with their educational pursuits means that they may not be able to take classes during the day or have the freedom to move to another location to take a specific course.

Some feminist researchers exploring women's experiences at both the undergraduate and graduate levels of education have discovered that the rising costs of tuition is a major obstacle for many female students (Gaskell and McLaren, 1991; CCLOW, 1997; York Stories Collective, 2000). Consequently, the financial circumstances of many women students require that they have student loans and take part-time jobs. According to some female students, lack of funding and “debt stress” create a constant pressure that makes it “difficult to concentrate and perform well in their academic work” (York Stories Collective, 2000, p. 74). Feminist researchers have also identified safety issues as a barrier to women's access to education. Women students expressed concerns about safety in campus residence buildings and those living off campus were fearful about walking home at night (Pearl et al., 1997; York Stories Collective, 2000).

The second category, social access, means “meeting learners’ needs for appropriate content and supportive environment” (CCLOW, 1997, p. 7). Feminist researchers argue that female students' desire that knowledge be “situated in the context of lived experience” usually goes “largely unrecognized in most classrooms” (York Stories Collective, 2000, p. 66). A study of female graduate students at York University claims that these women sought to “combine theory and practice, to bring the outside world into the classroom and to apply useful academic concepts to the outside world” (York Stories Collective, 2000 p. 66). These women also argued that course offerings were scarce in terms of their interests.

Studies that examine women's access to studies in computer science and technology have found that female students in these areas face difficulties with self-

esteem, lack of mentoring and roles models, gender discrimination and difficulties balancing career and family responsibilities. According to education researchers, female students in undergraduate and graduate programs suffered a “significant” loss of self-confidence during their post-secondary educational experience while the confidence of their male counterparts increased slightly (Pearl et al., 1997, p. 389). Researchers assert that a “major problem facing women in the process of becoming computer scientists is a shortage of mentors” (Pearl et al., 1997, p. 390). They argue that female mentors are living proof that women can have careers in computer science and technology. These women can also share information with female students about “research funding, avenues for publication, the informal power structure within a department and within the discipline as a whole, and so on” (Pearl et al., 1997, p. 390).

Education researchers have noted that female students have experienced both subtle and overt instances of gender discrimination. Studies of computer science and engineering departments have discovered that female students received differential attention that promoted “performance stress” while exclusion from informal relations was shown to be “a career handicap” (Pearl et al., 1997, p. 392). Feminist theorists have pointed out that a specific manifestation of differential treatment of female students in computer science and engineering is the “invisibility syndrome” (Pearl et al., 1997, p. 392). According to researchers, this notion of “invisibility” represents the reality that the percentage of women in computer science is smaller than the percentage of women in the general population and even within the field, women are underrepresented in many important professional activities (ibid., 1997).

2.2 Context

This issue of context, or a background for experience, is an important part of understanding the gender-technology relation, the potential for learning in cyberspace, and women's education. How does the context of technology affect the way women feel about it and interact with it? In what ways do the contexts of the Internet provide a space for learning? What are the contexts in which women learn?

The context or circumstances surrounding women and technology have been highlighted in debates by researchers about the gender-technology relation. While there is no clear consensus among researchers as to the nature of the association, most characterize it as an uneasy one (Gill and Grint, 1995). There is a wide range of feminist viewpoints concerning women's relationship with technology. Ecofeminists claim that the context of technology is "inherently and inevitably patriarchal" and therefore they avoid engaging with technology because to do so is to subject oneself to inevitable subordination; thus they completely reject "masculine" technology (Grint and Gill, 1995, p. 7). The goal of these feminists is to develop a feminist context of technology by creating "feminine technologies" whatever they may entail (Grint and Gill, 1995, p. 7).

Liberal feminists argue that despite the neutrality of technology, a masculine context is created by sex role stereotyping and women's position in a sexist society. They maintain that women must catch up to "masculine ways of relating to technology" by gaining more training and education (Grint and Gill, 1995, p. 7). Marxist and socialist feminists examine women's relationship with technology in the workplace which most identify as one of "separation and exclusion" (Webster, p. 150).

During the 1990s, feminist theories of technology began turning towards a social constructivist approach which is made up of many strands of thought (Grint and Gill, 1995; Faulkner, 2001). One group of these researchers seeks to move beyond the issue of equal opportunities for women in terms of representation in the traditionally male professions of science and engineering by asking “is technology itself shaped by gender, and is gender shaped by technology” (MacKenzie and Wajcman, 1999, p. 25)? For feminists taking this approach to technology, the answer is that gender and technology are mutually constitutive in that “gender relations shape technology and technology relations are also, inevitably, gender relations” (Faulkner, 2001, p. 84). Another facet of the social constructivist approach to technology is the Actor Network Theory (ACT), which examines the design and physical construction of technology. However, feminists have criticized this approach because

by focusing on the design and development of an artifact's life, constructivist studies often fail to see women at all. This is not necessarily attributable to chance: the research focus keeps shifting to new arenas where women are scarcely present (Grint and Gill, 1995, p. 18).

Feminists argue that in order to “see” women in the Actor Network Theory, it is necessary to move beyond the network as normally defined and see it as embodying a set of power relations with which men and women will engage in discourse (Grint and Gill, 1995). Consequently, Susan Ormrod asserts that feminist sociology on technology must

show how relations of power are exercised and the processes by which gender subjectivities are achieved. It must therefore attend to the range of discursive practices and the association of (durable) materials, meanings and subjectivities within which gender and technology are defined and differentiated (1995, p. 4).

Apart from the social construction of technology approach there is a specific model called SCOT (Social Construction of Technology), developed in the 1980s that

distinguishes itself by its focus on the “interpretive flexibility” of technological artifacts. (Kline and Pinch, 1999, p. 113). Interpretive flexibility “shows that neither an artifact's identity, nor its technical success or failure, are intrinsic properties of the artifact but subject to social variables” (Bijker, 2001, p. 26). Communication researchers argue “the same artifact can mean different things to different people” (Kline and Pinch, 1999, p. 114). For example if young men want to ride a bicycle for sporting purposes then they look for one that is fast or “macho” while women or older men may view the same bicycle as unsafe and inappropriate for simple transportation reasons (Kline and Pinch, 1999, p. 113). Interpretative flexibility also means that users can appropriate technology for purposes that the designers did not intend (Feenberg, 1999, p. 79). For instance, in the 1900s, women began using the telephone for social purposes, an “aspect of telephone technology that had not been foreseen by the early capitalist developers of the telephone system” (Martin, 1991, p. 151). Consequently the phone company had to equip houses with “extensions or supplementary lines in order to allow for the husband's business calls as well as the wife's social calls” (Martin, 1991, p. 150). Feminist communication researchers claim that women have appropriated both the technology and meaning of Internet (Harcourt, 2001, CCLOW, 1997). They have accomplished this by entering cyberspace and using the seemingly masculine technical networks for various feminist social agendas. Women on the Net (WoN), which was set up originally by the Society for International Development (SID) with UNESCO funding, is one such group. One of the main aims of this group is to encourage women to “use the Internet more easily as their space, thereby empowering women to use technology as a political tool” (Harcourt, 1999, p. 1).

Originally the SCOT model dealt mainly with design, saying little about the social structures and power relationships within which technology development takes place. This was seen as a weakness. Another criticism of this model is the neglect of the reciprocal relationships between artifacts and social groups. Communication researchers maintain “it is important to show how social groups shape technology but also how identities of social groups are reconstituted in the process” (Kline and Pincher, 1999, p. 114).

Feminist researchers have also expressed some doubts about the use of SCOT, which is viewed as an “apparently gender-neutral” theory (Saetnan, 1997). One researcher questioned her use of the SCOT, reflecting on whether or not this model will only help feminist researchers find gender under construction if they set out to find gender in the first place. However she also expresses hope because the SCOT model allowed her to “see gender being shaped at the same time as it was used as a technology-shaping argument” (Saetnan, 1997, p. 246). She also felt that the model had the potential to avoid technological determinist and gender essentialist “quagmires”. Consequently, Saetnan argues that the SCOT model has the potential to provide researchers with “an open space in which both gendered identities and technological materials linked with those identities remain negotiable almost indefinitely” (Saetnan, 1997, p. 246).

It seems that by taking a poststructural stance, the feminist use of SCOT can allow researchers to move beyond feminist technology studies that portray women as either the experts or the victims of technology. By emphasizing principles of poststructuralism such as “complexity and contingency,” and “multiple, decentered agencies with no singular lines of causation, without losing sight of power” the mutual

shaping of gender and technology framework is replaced by a model in which gender and technology are seen as “co-produced” (Faulkner, 2001, p. 82). The SCOT model allows researchers to look at how particular social groups interpret various technologies, thus permitting researchers to use the analytical category of gender to examine women as a social group. Consequently, the social construction of gender and the social construction of technology are each “seen as performed and processual in character, rather than given and unchanging” (Faulkner, 2001, p. 82).

In *The technology question in feminism: A view from feminist technology studies*, Wendy Faulkner (2001) maintains that technology is gendered in several ways. She argues that the key specialist actors in the design of technological artifacts are primarily men and therefore these objects can be gendered materially. The fact that cultural images of technology are strongly associated with hegemonic masculinity, although there is disparity between image and practice, means that technological artifacts are also gendered symbolically. However, Faulkner notes that while technological artifacts can be gendered both materially and symbolically there “remains considerable interpretive flexibility in their use” (2001, p. 90). Faulkner points out that technology is gendered by patterns surrounding technical knowledge, work and play. She asserts that technical knowledge and practice is gendered in complex and contradictory ways and notes that technology is an integral part of gender identities of men who work and play with technologies. Faulkner points to the existence of gender divisions of labour based on the equation of masculinity with technical skill and argues that while styles of work may be gendered, there are strong normative pressures to conform.

This study will take a feminist poststructural approach to the SCOT model to investigating women's use of the Internet as an informal educational tool. It will examine how women's experiences of the Internet and education have been gendered. This investigation will examine how the Internet has been symbolically and materially gendered to be a male domain and will explore how women as a social group have resisted the intentions of male technical designers through interpretive flexibility. As well, it will look at styles of learning that may be gendered, although there are strong pressures to conform.

While many feminist researchers recognize that “technological packaging” is gender biased, only a few stress praxis concerning women's use of technology. Ursula Franklin asserts that the “exclusion of women as formative practitioners of technology is harmful to society” (1999, p. 103). She maintains that women can make a great contribution to technology “precisely in their potential to change the technostructure by understanding, critiquing, and changing the very parameters that have kept women away from technology” (Franklin, 1999, p. 104). Wendy Faulkner takes the other side of the gender technology argument that “the challenge of the technology question in feminism means that we cannot transform gender relations without engaging in technology” (2001, p.90). Nonetheless, while Franklin believes that women have the possibility of “changing the real world of technology itself,” she admits that women are most likely to succeed if they simply become “one of the boys” by using technology exactly as their male counterparts do (1999, p. 104).

Most of the research concerning the use of the Internet in education has focused on learning in terms of formal settings. Similarly, some feminist researchers have noted

that there is a tendency to emphasize women's learning in formal education (Hayes and Flannery, 2000). According to Daniel Cerezuelle this is because “formal education in modern technoscientific society undermines the informal foundations of learning, which are traditionally acquired outside of school in the home, at work, and in community environments” (1998, p. 307). He maintains that although the development of formal education is equated with “social progress” and access to the “universal sphere of information,” informal education and the personal experience have been viewed with suspicion and seen as “obstacles to modernity and material progress” (Cerezuelle, 1998, p. 307). This attitude could explain why there is a lack of interest in exploring informal learning. Cerezuelle claims that the technicization of society has led to a disruption between the public and private spheres. He states that,

with TV – not to mention the Internet – the public sphere has invaded the private one. Private life has become technically and economically, if not culturally insignificant. Local community life is no longer a source of important values in educational processes, but simply the occasion of asserting one's own singularity (for example, through the decoration of one's home) (1998, p. 313).

While I agree that technology has blurred the lines between public and private spheres, I disagree that the outcome is as negative as the one that Cerezuelle describes. There are numerous examples of technology allowing people to express their culture and share it with others. As well, there are instances where community groups have utilized technology for group learning and action. While it is true that the technization of society has led to the encouragement of individualism in some cases, I do not believe that we have seen the complete destruction of community values such as Cerezuelle suggests.

The importance of technology in formal educational contexts can be seen in the debates among academics and visionaries upon the introduction of new communication

technologies. With the advent of the computer, many communications researchers theorized about the potential impact this new technology could have on formal educational settings (Apple, 1991; Kay, 1991). Although some theorists thought that computers would be a revolutionary new learning tool, others were concerned about the possible replacement of the human element in the classroom as well as the potential inequities that such technology could cause among students (Kantrowitz, 1994). Similar issues arose when educators proposed utilizing the Internet in the classroom. Again, some researchers heralded the Internet as an important learning tool while others expressed concern about the notion of students being divided into “information haves” and “have-nots” (Spender, 1995).

While technologies have become part of educational contexts such as classrooms, technologies in and of themselves are contexts for learning. The Internet is a unique educational tool, as evidenced by the fact that while it is being utilized by formal learning institutions, its use in the home, at work and in public spaces provides people with opportunities to use cyberspace as a setting for informal learning. Informal, or non-formal, education is learning that takes place “in settings not specifically designated for education, such as in the home and community groups” (Flannery and Hayes, 2000, p. 2).

Although the Internet is a context for learning, at the same time it provides a multiplicity of other settings for learning. Those who enter cyberspace must learn basic Internet skills such as familiarity with computers, knowledge about how to navigate through the large collections of images and text, and rules of communication and etiquette (Cahoon, 1999). In addition to this technical learning, the Internet has many

forms of community groups from which people can learn. These include chat rooms, mailing lists, newsgroups and web sites covering a variety of topics.

The Internet has been used as an informal educational tool at both the personal level and the group level. David Whittle maintains that “cyberspace is arguably the most significant individualized learning tool in the history of civilization” (Whittle, 1997, p. 179). He goes on to recount his own informal learning experiences online, claiming that

over the years, I’ve learned far more online about how things really work than I learned about how things should work in theory in six years of higher education as an undergraduate and graduate student. Even more important, my education has proceeded based on my timetable – it has seemed more like entertainment than education (Whittle, 1997, p. 37).

Researchers have also examined how the Internet has been used on a group level. Many feminist researchers have examined how women are organizing themselves into “information” networks on the Internet. They argue that

women are using the Web to exchange information on topics such as personal and community health issues and justice issues including abuse and violence against women. They are also using the Internet to establish lines of communication that transcend regional and national boundaries, establishing a community of women with shared interests in all parts of the world (CCLOW, 1997, p. 41).

Consequently, this study will maintain that women’s informal learning in cyberspace - includes both personal and group learning on the Internet in a setting that is not designated for the specific purpose of education.

Feminist theories of learning support the notion that context is important to women’s education. In fact, they argue that it is important to investigate women’s learning in informal educational setting because they “often challenge the dominant portrayals of women in more formal academic settings” (Hayes and Flannery, 2000, p. 20). Hayes and Flannery assert that women’s learning takes place in “myriad ways and

settings – among women with varied backgrounds and characters” (2000, p. 20). They maintain that women engage in individualized learning and group learning. Hayes and Flannery describe women who gain knowledge and skills as a result of raising children and managing a household. As well, they mention community groups such as church groups and clubs, political groups and organized groups that provide women with opportunities to “acquire skills and knowledge” both through the act of “doing” and through more organized learning activities (2000, p. 38).

2.3 Communication

Communication, or the act of sending and receiving messages, is an important theme in technology studies and feminist theories of learning. Technological researchers theorize that our society is built on information “networks” while feminist theorist emphasis the notion of “voice,” or women’s ability to talk verbally, express their identity and communicate power.

There are technological theorists who claim that contemporary society is based on networks and information flows (Mulgan 1991; Latour 1993; Castells, 1996). These networks “carry an unimaginable volume of messages, conversations, images and commands” (Mulgan, 1991, p. 1). Communication researchers argue that networks are being used to “reshape the nature of culture and social life, war and work” (ibid). However, Arturo Escobar claims that these theorists leave out “the place-based uses and appropriation of technological resources by actors such as women, environmentalists and social movements in many parts of the world”(Escobar, 1999, p. 33). He argues that

“networks” are important to these new political actors and in this conception networks are facilitated by electronic and information technologies, particularly the Internet.

Feminist researchers have explored the ways in which women are using cyberspace networks for their own purposes (Shade, 1996; McCulley and Patterson, 1996; Sutton & Pollock, 1997a; Sutton & Pollock 1997b; Balka, 1997; Szeto, 1999; Harcourt, 2000). They maintain that women are using Internet networks to meet, organize and collaborate with other women. Although women have had success using the networks for these purposes, feminist researchers have addressed some of the ways that women have been discouraged or excluded from these networks.

The ways that women have been discouraged from using the Internet networks relate mainly to the concept of voice. Some feminist researchers argue that while there are women who have physical access to cyberspace, they do not have social access, in that their voices are neither heard nor valued. They maintain that “historically the voices of dominant groups have overridden those of subordinated social groups – women, workers, people of color, and gays and lesbians” (Fraser, 1995, p. 291). Consequently, it seems that these systematic social inequalities have been reproduced in cyberspace.

Feminist research indicates that in online and offline interactions there is a tendency for men to dominate the conversation. Communication researchers have discovered that silence is sometimes imposed on women in cyberspace by louder, more aggressive male voices (Spender, 1995, Kramarae and Taylor, 1993). According to some researchers, “in addition to sending more messages, and introducing more new topics than do women, men tend to disagree more frequently with others” (Kramarae and Taylor, 1993, p. 353). One study indicated that not only did men dominate participation

on a mailing list that had a small feminist contingent, they expressed hostility about the discussion of feminist issues, claiming that for women to do so is exclusionary (Spender, 1995; Herring et al., 1995). Similarly, men have even monopolized “open networks where the topic is women’s issues” (Kramarae and Taylor, 1993, p. 352).

Some feminist researchers also maintain that women are sometimes scared into silence by the threat of sexual harassment and violence (Kramarae and Taylor, 1993; Spender, 1995; Kalda, 2000). They note that women on the “networks experience sexist jokes and limericks” and fear hostile comments from men if they point out such sexist behavior (Pearl et al., 1997). Women may also be silent on the Internet in order to avoid violent acts such as virtual rape (Spender, 1995).

Feminist communication researchers have shown that although women may have access to computer networks, they can be excluded from them by certain behaviors. However, women have also learned that they can create closed networks of their own. The unbalanced, discursive dynamic in cyberspace has led some women to create women-only forums in cyberspace. One such arena is the Sisters Mailing List that concerns women in computer science and related disciplines and is moderated by Anita Borg. While some men protest such forums as exclusionary, L. Jean Camp defends the need for these types of arenas in her article “We Are Geeks, and We Are Not Guys: The Sisters Mailing List.” Camp states,

Too often, when women try to create spaces to define ourselves, we are drowned out by the voices of men who cannot sit quietly and listen but need to bring themselves into the discussion. Many of these men support women. But the voices of men who cannot be silent even in a space ostensibly devoted to women means that there are no public spaces for women to talk about and to other women. So we withdraw to a room of our own -- to mailing lists (1996: 115).

Perhaps one of the most effective ways that women online have helped their offline sisters is by creating content and spaces online that are relevant to women. These women-centered web sites, which are designed by women for women, provide female Internet users with safe spaces to exchange ideas and resources, to collaborate and, most importantly, to network (Shade, 1996; Balka, 1997).

The notion of voice is prevalent in the literature concerning women's education (Code, 1991; Hayes and Flannery, 2000; York Stories Collective, 2000). Early feminist works on women and education claim that the style and content of “women's talk” is “typically devalued by men and women alike” (Clinchy et al., 1986). They discovered that the metaphor of “voice” applied to women's experience as well as their intellectual and ethical development. As a result, they maintain that the development of women's sense of voice, mind, and self are linked together (Clinchy et al., 1986). Other feminist theorists have recognized that “voice” extends beyond women's personal development to encompass the power relations that women experience in society. This section will explore three meanings of voice that include voice as talk in the literal sense, voice as identity, and voice as power (Hayes and Flannery, 2000).

Researchers examining the idea that voice is equivalent to patterns of speech and communication in learning have made various claims as to importance of gender in this process. However, as Elisabeth Hayes points out, there are dangers in claiming that there are women's ways of talking. She admits that while there may be general gender-related patterns within our culture that are worth exploring, there is a need to be “sensitive to variations among individuals and across cultures” (Hayes, 2000, p. 83). Therefore Hayes

argues that it is important for researchers to examine the context in which this talk takes place.

According to some feminist researchers, the term “voice” can reflect changes in women’s development of identity in the learning process. The metaphors of giving voice, developing voice and multiple voices all describe this identity formation. The notion of giving voice means “naming experiences previously unarticulated” while developing voice refers to an evolutionary process of finding one’s identity. The term reclaiming voice describes women who have denied or lost their “true” voice retrieving it while the idea of multiple voices “reflects the assumption that as individuals or subjects we have diverse identities that are expressed differently in different situations” (Hayes and Flannery, 2000, p. 98).

The third meaning of voice is that it is a direct expression of power. Historically women have been denied the right to speak, therefore women’s effort to “claim a voice” or speak out “can be acts of resistance and rebellion against domination” (Hayes and Flannery, 2000, p. 102). According to some feminist researchers, voice as power can be applied to both women’s individual and collective voices. Individual women’s use of silence indicates that women can use their “voices” in ways that subvert power relationships. Some feminist researchers maintain that some women chose silence as a deliberate strategy to be safe. In other words, they seek to protect their sense of integrity and self worth by not expressing their true feelings. Others deliberately adopt a powerless voice because they find it is an effective means for gaining the attention of those in authority. In some cases women in formal educational settings remain silent in order to avoid losing class marks for oppositional viewpoints. Other women adopt an

outspokenness that has been associated with male patterns of speaking and thus learn to use the “tools of the master, which included persuasive logic as well as a forceful speaking style, to challenge the authority of the professors’ positions” (Hayes and Flannery, p. 104). Feminist researchers assert that it is important to realize that views of “voice, silence, and power are culturally determined” (Hayes and Flannery, p. 104). They argue that silence in some cultures does not indicate lack of power or a sign of stupidity but rather indicates a sign of respect and deep thinking. Consequently feminist researchers point out that “the nature of a powerful voice for women may vary across cultures” (Hayes and Flannery, p. 105).

2.4 Conclusion

The literature indicates that there are strong links between women’s experiences of technology, the Internet and education. While feminist researchers demonstrate that women face significant obstacles in all three areas, some express hope that women have the power to overcome these barriers. I agree with the notion that only by engaging with technology can women deal with the question of the gender-technology relationship. The Internet has proven to be an educational context and one that I believe has the potential to offer women avenues of resistance that do not exist in formal educational settings. Consequently, I will explore women’s attitudes about the Internet as an educational tool for informal learning through face-to-face, semi-structured interviews. The methodology of this research will be discussed in the next chapter.

3. Research Design

After posing questions about women's attitudes toward the Internet as an informal educational tool, I had to make methodological decisions about how best to answer them. The fitting characteristics of a qualitative paradigm, my role as a researcher, the importance of ethical conduct and my ability to recruit participants all guided the creation of the research design for this study.

3.1 A Qualitative Paradigm

Norman K. Denzin and Yvonne S. Lincoln argue that the main difference between qualitative researchers and quantitative researchers is that the former emphasize the examination of "processes and meanings" while the latter focuses on "the measurement and analysis of causal relationships between variables, not processes" (quoted in Huberman and Miles, 1998, p. 8). Researchers have commented on the flexibility and uniqueness of the qualitative paradigm, noting that "In effect qualitative designs are not copyable, off-the-shelf patterns, but normally have to be custom-built, revised and choreographed" (ibid., p. 185). For this study, I chose to use a qualitative research design, employing a feminist post-structural paradigm. I thought that these choices were appropriate given the purpose of the study, the type of information I wanted to collect, and the existing theoretical base on this topic.

The purpose of this study is to understand women's thoughts and attitudes about their use or potential use of the Internet for informal educational experiences. I used a qualitative paradigm because I wanted to uncover the "meanings people attach to the

things in their lives” (Taylor and Bogdan, 1998, p. 7). This study will seek to reveal the “meaningfulness” of the Internet in women's daily lives.

Denzin and Lincoln maintain that “all research is interpretive, guided by a set of beliefs and feeling about the world and how it should be understood and studied” (1998, p. 26). Consequently, in order to move beyond the social context surrounding women’s use of the Internet, this study seeks to capture individual viewpoints of different women. As well, it will explore the “constraints of everyday life” in order to produce a “reflexive, multivoiced text that is in grounded in the experience of repressed peoples” (ibid.).

By taking a qualitative approach, I hope to fill a gap in the research about women's participation in cyberspace. Although communication researchers have identified some patterns of use and attitudes toward the Internet held by women, most of these studies tend to disconnect the women involved in the studies from their contexts. One of the advantages of employing a qualitative approach is being able to look at “settings and people holistically” which means that “groups are not reduced to variables but are viewed as a whole” (Taylor and Bogdan, 1998, p. 8). Thus each woman's experience of the Internet will be viewed against the backdrop of her daily life.

Historically, women's perspectives have been neglected and qualitative research provides an avenue for foregrounding the experiences of voices and allowing their voices to be heard (Taylor and Bogdan, 1998, p. 20). Using the research technique of qualitative interviewing will allow me to secure “rich description” of women’s experience (Denzin and Lincoln, 1998, p. 9).

While feminist researchers have explored women's participation in cyberspace, these studies tend to compare women's participation to that of their male counterparts.

Although this research is valuable, it may miss nuances and complexities involved in women's interactions with cyberspace. Communication researchers Rosie Heimrath and Anne Goulding admit that this focus on “difference” can detract from the perceptions about women's relationship with the Internet (2001, p. 132). They argue,

Thus although the findings do suggest that the women in the study were limited and reluctant Internet users, this is only in relation to the men surveyed. The raw data suggests that women use many Internet services and generally benefit from their use of the medium (Heimrath and Goulding, 2001, p. 132).

The theoretical base related to the meaning of women's informal educational experiences in cyberspace is lacking. Although feminist theorists have explored the “meaningfulness” of women's organization for political purposes in cyberspace, there is limited investigation into understanding women's interaction on the Internet for informal educational purposes. As a result, I employed a “loose inductively oriented design” because the “terrain is unfamiliar” and “the intent is exploratory and descriptive” (Huberman and Miles, 1998, p. 185).

However, Taylor and Bogdan (1998) point out that there cannot be pure induction because the researcher brings a set of assumptions about the world to investigations. They maintain that “within a broad theoretical framework, the goal of qualitative research is to make sure the theory fits the data and not vice versa” (Taylor and Bogdan, 1998, p. 8). Consequently, I have described my assumptions, as they are a starting point for my exploration of women's attitudes about the Internet as an educational tool. The data I collect will either be similar or different than my assumptions or somewhere in between.

3.2 Ethical Conduct

Andrea Fontana and James H. Frey assert that “because the objects of inquiry in interviewing are human beings, extreme care must be taken to avoid any harm to them” (1998, p. 70). I ensured the protection of the women in this study by first submitting an application detailing my objectives and research methodology to the Carleton University Ethics Committee for review and approval. Upon receiving approval from the Committee, I put into practice the three main ethical considerations of informed consent, confidentiality and consequences.

Informed consent means that participants “agree to participate only after they have been fully informed about the study” (Frey, 1991, p. 147). I informed the participants about the purpose of the research, the procedures that would be followed and told them about myself, including education and other credentials. In addition, I offered to answer any questions that occur during the study, provided a way for participants to contact me, and gave assurance that if the design or use of the information is changed, that I would inform the participants and their consent re-obtained. The participants were required to sign a consent form before submitting to an interview. The consent outlined in clear bullet form what the participant was agreeing to (see Appendix A).

The second ethical concern is privacy. Steinar Kvale argues that “confidentiality in research implies that private data identifying the subjects will not be reported” (1996, p. 114). I protected the privacy of the participants by assigning them pseudonyms so that apart from the consent forms, the names of the participants were not tied to any research-related materials such as field notes, data analysis or the reflective journal. As a result, only the participants and I will know their identities. As well, all materials related to the

interviews were stored in a locked filing cabinet to which only I have the key. Once the data analysis is complete the audiotapes will be destroyed.

Finally, I discussed the possible consequences that could occur for the participants in the interview process. Kvale maintains that “the sum of the potential benefits to a subject and the importance of the knowledge gained should outweigh the risk of harm to the subject and thus warrant a decision to carry out the study” (1996, p. 116). I ensured that the interview process was a beneficial experience by putting the participant at ease and by telling them about the possible risks and consequence that could arise from the interview.

3.3 The Role of the Researcher

According to Norman K. Denzin and Yvonna S. Lincoln, the interview “is not a neutral tool, for the interviewer creates the reality of the interview situation. In this situation answers are given” (1998, p. 36). They maintain that the interview process is “influenced by the personal characteristics of the interview, including race, class, ethnicity, and gender (1998, p. 36).

As I interviewed the participants in this study I kept a reflective journal in order to record my personal biases. I have a personal investment in this study in that I have had access to the Internet in my home, at work, and at university for the past three years. I have frequently used it for what I would deem are informal educational purposes. I feel that these experiences have been positive and empowering. Consequently, I want to know whether or not other women have had similar or different experiences.

My role as a researcher in this study was twofold. First I collected stories from women who use the Internet for five hours or more per week. Then my role changed to that of an editor of an anthology of viewpoints. I arranged the stories in a particular order, commenting on their themes but allowing them to speak for themselves as much as possible.

3.4 Criteria for Participating

According to Herbert Rubin and Irene S. Rubin, “Whom you talk to is crucial in qualitative design, so choose thoughtfully” (1995, p. 66). I established a set of criteria for the eleven women involved in this study. First, the study was to take place in Ontario, so participants had to be residents of this province. The women were to be between the ages of 18 and 34, use the Internet for five hours or more per week, and have Internet access at home, at work during non-work hours, or in a public place.

I chose the category of women between the ages of 18 to 34 because I wanted to avoid possible generation gaps in the data. According to a study conducted by Jupiter Communications, aside from income, age is one of the largest gaps in Internet adoption in the United States digital divide (2000). Although income may prevent people from using the Internet, public access initiatives such as providing free Internet access terminals at libraries can help people to overcome that barrier; however, the age gap is more complex. It can create differences between Internet users because older users did not grow up with the technology and it was not present in their schools. As well, a study about “silver surfers” or older Internet users claimed that attitudes toward aging had a significant impact on older users’ desire to stay in an Internet training program (Cody, 1999, p. 281).

Consequently, the inclusion of women of different generations in this study would have to address issues that could overshadow the purpose of the study. Nonetheless, because of the age range, the results will be limited to a group of women who might have more experiences with technology than older women and fewer familial responsibilities.

Some feminist researchers have argued that women must be willing to engage with technology in order to deal with uncertainties about the gender-technology relationship. For the purposes of this study I am only interested in women who engage with technology rather than those who do not. I feel that in order for women to have informed attitudes and opinions about the Internet, they must have regular contact with the medium. I have set the requirement of work use during non-work hours because participants may be less forthcoming about personal Internet usage during works hours as employers do not usually sanction this type of use. Again, this parameter means that the results will be limited to women who have the time, resources and knowledge to go online for at least five hours per week.

3.5 The Recruitment Process

I used a purposeful snowball sample for this study because women who use the Internet for five hours or more per week are not an easily identifiable segment of society. As well, I was uncertain about whether or not women would be willing to talk to a stranger about their Internet use. By using contacts who have access to groups of people who are trusted friends, acquaintances, neighbors or co-workers, I was able to find women who fit the criteria and who were willing to meet with me because I have a connection to a person they know and trust.

I asked six women I know to assist me in identifying potential participants. I provided the women with the criteria for participating in the study. The contacts then advised me of women interested in being in the study and provided me with their contact information. In two cases the women contacted me through email to express their interest in being in the study. Two of my contacts fit the criteria and expressed interest in being in the study, while the other nine participants were completely unknown to me. Before conducting the interviews I provided the participants with an information letter. It provided the purposes of the study, outlined potential risks, detailed how the researcher would ensure the participant's confidentiality, and gave the participant contact information for the researcher, the Committee of Ethics and the researcher's supervisor (see Appendix B). As well the participants were asked to sign a consent form that told participants what they were agreeing to (see Appendix A).

The recruitment process was successful in identifying and convincing women who fit the criteria to participate. I found that having a relationship with the contact was a common denominator between the participant and myself and was useful in helping me establish a rapport with the participants. However, because I used contacts known to me to help locate participants, one could argue that they would share similar characteristics with myself.

3.6 The Participants

Theorists argue that qualitative researchers use the principle of "saturation" in order to determine the number of interviews to conduct during a study. According to Herbert J. Rubin and Irene S. Rubin, the "saturation point" occurs when "each additional

interviewee adds little to what you have already learned” (1995, p.72). I felt that the saturation point could be achieved by conducting eight to ten interviews. After conducting the ten interviews, I decided to extend the saturation point to eleven interviews.

All of the eleven interviewees are residents of the province of Ontario. Nine of the participants are currently living of Ottawa while one is a resident of Waterloo who was visiting Ottawa at the time of the interview. Another woman was home from a Nova Scotia university for Christmas vacation. The participants ranged in age from 20-32. Six of the women had Internet access at home, while the other five did not. Two of the women had previously had access at home but had not replaced broken computers.

3.7 The Interview

I conducted individual, face-to-face, semi-structured interviews with the eleven women in the study. Although the length of the interviews averaged 30 minutes they ranged between 25 and 90 minutes. The interviews were conducted between November 12 and December 11, 2001. Five of the women invited me into their homes for the interview while I met two women at university. I met one woman in a public setting and interviewed two women at my home. All of the interviews were audio taped with the permission of the participants.

I used an interview guide to direct the flow of questions during the interview (see Appendix C). The interview guide was divided into three distinct sections. The first section focused on women’s attitudes towards and experience with technology. It

explored what these women think technology is, what technology they use in their daily lives and the nature of their relationship with these technologies.

The second section investigates women's attitudes towards the use of technology in formal educational settings. It examines what these women think is the role of technology in education and these women's personal experiences with educational technology.

The final section of the interview guide required women to reflect on the meaning of the Internet in their lives. They were asked to talk about the nature of their access to the Internet, describe the context in which they view cyberspace and describe their communication on the Internet. The participants were also asked to discuss their online activities and identify various situations in which they had used the Internet to learn something.

3.8 Data Analysis

Before analysis could begin, the tape-recorded data from the eleven interviews was transcribed word-for-word. Then the transcripts were imported into Nudist 4.1, a software program that manages qualitative data. My field notes and entries from my reflective journal were also added to the project.

The first step in the analysis involved open coding or "naming and categorizing phenomena through close examination of the data" (Seal, 1999, p, 99). Open coding resulted in the identification of over seventy codes. I then proceeded to examine each of the codes identifying similarities and differences, exploring contexts and investigating links between codes. As a result themes began to emerge. In total, the researcher

identified twenty main themes. These themes are contained within the four categories of access, quality of access, context and communication. These four elements reveal the meaning of the Internet in the lives of the eleven women described below.

3.9 Eleven Female Internet Users

The eleven women in this study share similar experiences and uses of the Internet. However, each woman brings her own unique set of circumstances and attitudes to her interactions with technology. Consequently, each woman creates the lens through which she sees the Internet. Below, brief biographies of each of the women provide a glimpse into the background from which each of the participants comes and an overall sense of their attitudes toward technology and the Internet.

3.9.1 Megan

Megan is a 20-year-old clerical worker for a municipal government office. Art is Megan's hobby and she "loves" to paint. She thinks that "technology is good to a point" but she is against the notion of having computers in classrooms. She admits that she once dropped out of an architecture class because computer programs had replaced the manual practices. As an artisan Megan values working with her hands, after all "that is what they are there for." Megan has access to the Internet at work and at her parent's home. She prefers using it in the privacy of her parent's basement because she feels like she is being watched at work. Although she would like to have access to a computer in her home, Megan does not feel she needs Internet access in her home. She prefers going to the library to look up information in books and said she would rather "do something" than sit

in front of a computer screen. She thinks of the Internet as “informative” and uses it mainly for research purposes although she also enjoys the conveniences of Internet banking and reading news online. Megan only uses email at work and think that communication through instant messaging is taking technology too far.

3.9.2 Elizabeth

Elizabeth is 21-year-old support worker at a retirement home. She feels like she lives in a society that cannot survive without technology. She is sometimes impatient with technology and becomes frustrated. Nonetheless, “most times” she can work with technology. Elizabeth thinks that the increased use of technology in education is a “good thing.” She feels that by starting the instruction of technology early on, students will have gained necessary computer skills by the time they reach high school. Elizabeth used to have access to the Internet at her home but her computer crashed and it has yet to be repaired. She preferred using the Internet in the privacy of her home because there were “no distractions.” When she had Internet access at home she used it pretty every day “just for fun.” Now she uses it once a week, once every two weeks or whenever she can get access either at friend’s homes or Internet terminals at Chapters bookstores. Elizabeth describes the Internet as a “great big source of information.” She maintains that the Internet has changed the way she communicates in that now in most cases she chooses to email friends and family instead calling them.

3.9.3 Jane

Jane is a 24-years-old and works in an administrative position for a federal government department. She sees that our “world is being surrounded by technology now” and thinks it is a good thing. However, she still worries about the concerns raised by the Y2K scare about the potential for computer failures. Jane’s first experience with computers was threatening. Her teacher was impatient with her speed of understanding the new program he was teaching them. She admits that at the time she did not “ever want to look at a computer again” but she no longer feels that way. Jane argues that the use of technology in education is good because students will need computer skills in order to get job. Nonetheless, she worries that children’s recreational activities will suffer because she feels that computers tend to promote sedentary behavior. Jane accesses the Internet at work, at the public library near her home and at Internet cafés. She wishes that she had access to the Internet at home but it is not something that she can afford right now. Email and information are what comes to Jane’s mind when she thinks of the Internet. She uses email to keep in touch with family and friends and to send resumes to employers. She is also on a mailing list that forwards her information about jobs that fit her qualifications.

3.9.4 Erica

Erica is a 24-year-old education student at a university in Ontario who recently got engaged. Prior to beginning the Education program she got a biology degree and then spent a year in the North West Territories. She feels pretty comfortable with technology and deals with most technologies “fairly competently.” Erica is excited about using

technology during her *practicum*. She believes that it allows students to have greater access to information and it also “grabs” their attention. However, Erica realizes that funding for technological equipment in education is scarce. She is concerned that students who do not have access to computers at home might be at a disadvantage compared to classmates who do have such technology at home. Erica has Internet access at home and school but uses it mainly at home. She goes to the Internet to do a lot of research and therefore thinks of it in terms of information and information sharing. Not only does Erica email family and friends but she also receives at least three or four messages from school per day. She keeps up on developments in her field by subscribing to education related mailing lists.

3.9.5 Julie

Julie is a 30-year-old woman who is married to a computer engineer. She graduated with a legal assistant diploma and then took three years to do a Human Resource Management course. She currently is working her way up the “corporate ladder” in bank administration. Julie argues that while technology “can be very intimidating” using it increases the user’s comfort level. She maintains that once people learn how to use technology, it can make their lives much easier. She admits that some of her frustrations with technology may come from wanting things to be perfect and in effect expecting too much from technology. She supports the use of technology in education and feels that companies and the government should provide funding to ensure that schools have the equipment they need. Julie thinks that the Internet can benefit students because it has much more information than books do. Although Julie accesses

the Internet at both work and home, she prefers to use it at home because it is more comfortable and she can just sit down and relax. Julie tends to think of the Internet in an informational context because she spends much of her time online seeking out knowledge. She uses email and instant messaging to keep in touch with her friends and family, especially her two sisters.

3.9.6 Jennifer

Jennifer is a 32-year-old Asian woman who is a finance controller for a high tech company. Consequently she is comfortable with the idea of technology. After she graduated from university Jennifer worked on the marketing team for a high tech company. Then she tried working at a bank for a couple of months but she soon returned to the high tech industry with her current job. She claims that the culture in a high tech company is different in that “you have a lot more say, freedom and a lot more to learn.” Although Jennifer is comfortable with technology at work, her dad is the person who “really knows how to handle technologies at home.” She argues that the Internet is a major tool for people such as herself who are not taking any courses in school. Jennifer has access to the Internet at home and at work. When she goes online it is usually to check her email, read newspapers and magazines and research. Jennifer sees the Internet as a good way to get information. She also uses email to keep in touch with friends and family. She has joined some mailing lists to help her with various job searches and to find an apartment to rent.

3.9.7 Bai

Bai is a 29-year-old woman who works for a high tech company as a software designer. She came to Canada from China in 1996 after completing a bachelor's degree in accounting and working as professional accountant for three years. After arriving in this country she took a Master Program in Economics and is currently finishing her Masters in Computer Science. Bai thinks that technology is great because it is convenient and it allows her to talk to her family in China for cheaper rates. Bai is doing her thesis on tele-teaching from a electrical engineering viewpoint and maintains that technology in education can be beneficial if good technical support is available and everything is prepared before the class begins. Bai used to have Internet access at home but now she accesses it from school and work. Her computer broke down so she gave it to someone else. She plans on getting a new computer and Internet access at home soon because she needs one in order to avoid feeling "disconnected with the whole world." Bai views the Internet as a "cheap, convenient and fast way to communicate" and she often emails her family and friends. She also receives daily jokes and inspirational sayings from mailing lists to which she subscribes.

3.9.8 Lena

Lena is a 24-year-old Lebanese woman who works for a high tech company as a software tester. She thinks that although technology is good, it maybe advancing a "little bit too fast." Lena finds it hard to keep up with the constant technical changes. Nonetheless, things usually go smoothly when she is using technology. Lena is skeptical about the use of technology in formal education. She is traditional in certain ways and

preferred it when things were simpler. However, she recognizes that technology can be convenient way to get organized. Lena has access to the Internet at work and she sometimes uses it at her friend's homes. She asserts that she would not want to have a computer at home because she uses a computer all day and would not want to come home and spend a lot of additional time on the Internet. If Lena had to describe the Internet to someone who did not know what it was she would say that "It's a place where you can find information on anything you want." Lena uses email mainly to communicate with her co-workers and her friends. She has signed up for mailing lists that keep her up to date on her favorite bands, to receive notification of cheap airline ticket rates, and to get healthy recipes.

3.9.9 Alicia

Alicia is a 29-year-old Ph.D. student who has spent thirteen years in post-secondary education. She feels that technology makes her life easier and more enjoyable. While she sometimes experiences frustrations when technology does not work properly, overall "the positive aspects far outweigh the negative aspects." Generally Alicia waits a long time when technology comes out before purchasing it so that the "kinks are ironed out" when she buys it. She welcomes the use of technology for distance education because it provides access to people who live in rural areas, work full time, or are intimidated by the classroom environment. While Alicia has access to the Internet at school and at home, she uses it almost exclusively at home. This is because home access is more private and convenient. Alicia thinks of email and web sites first when hearing the word Internet. She says that the Internet provides the "opportunity to access almost

everybody in the world.” Alicia uses email to connect with friends and family. She also receives messages from various professional interest mailing lists that she has joined.

3.9.10 Rebecca

Rebecca is a 22-year-old student in the Recreation Management program at a university that uses laptops in its classrooms. As a result, she feels very comfortable using technology. Rebecca believes that technological knowledge is the key to the future. However she think the use of technology in the classroom should be appropriate for subject matter being studied. Rebecca asserts that there are some things that “can be taught better not using technology.” When she is at school Rebecca has access to the Internet all day everyday. Although the mobility of having a laptop allows her to use the Internet in a variety of locations, Rebecca prefers to use it in her residence room because it’s quiet and comfortable. She thinks of the Internet as “a series of interconnecting computers that allow people to communicate with each other and send files and exchange information on a much quicker basis than fax machines and paper mail and telephone calls.” Rebecca spends most of her time online doing research for school. She receives between 50 and 60 emails a day from friends, family, professors and various mailing lists related to her field of study and a couple for her personal interests like horseback riding.

3.9.11 Lisa

Lisa is a 26-year-old Bachelor of Education student. She lives with her boyfriend who works with computers. Lisa is back at school after taking a year off. Prior to that she did her BA in History and Canadian Studies and an MA in history. Lisa maintains

that she “loves” technology and wants to acquire as much of it as possible it makes peoples lives easier. She has never had much of a problem learning to use technology and argues that using it in the classroom will make things more interesting for her students. While Lisa has access to the Internet at both school and home, she prefers to use it at home because it is quiet and private. She views the Internet as an educational and informational tool because that is the focus of her life right now. Lisa enjoys email as a form of communication because she is “not a phone person.” She has two email accounts for different purposes. She uses one email for social reasons like keeping in touch with family and friends and another one for professional reasons like sending out resumes.

3.10 Conclusion

I chose to employ a qualitative paradigm because it was the appropriate methodology for exploring women’s attitudes towards the Internet as a potential informal educational tool. The brief sketches of the eleven participants indicate their willingness to employ technology and illustrate their opinions about the nature of that use. Chapter four will present the data collected from the individual face-to-face interviews. It will present the women’s connections in cyberspace from their own perspectives.

4. Cyberspace Connections: Through the Eyes of Female Internet Users

This chapter gives an account of the participants' colloquial connections to cyberspace. The women's descriptions of their encounters with various technological artifacts and especially their experiences with educational technology gave rise to themes that fall into three main categories. These categories are access, context and communication as they relate to the Internet as a potential informal educational tool. Wherever possible I have allowed the voices of the interviewees to come through, as many studies on women and the Internet have neglected to let the users be heard.

4.1 Access: Connection, Isolation and Balance

For most of the eleven women in this study, access to technologies, especially the Internet means both the possibility of "connection" and the potential of "isolation." While the participants welcome the convenience and connection that a technological society can provide, they fear that more virtual interactions could dominate their lives or result in a significant loss of human contact. Some feminist researchers have cited this dichotomy as evidence of women's fear that interacting with technology will cause them to lose their gender identity, which is rooted in the social world (Cockburn, 1999; Faulkner 2001). This argument will be discussed further in chapter five.

What emerged from the interviews was the idea that many of the women strive to create a balanced use of technological artifacts by making concise, valuable, planned "connections" while limiting the time they devote to technological activities. Consequently, their philosophies on their personal Internet use and the use of educational technologies were underlined by a struggle between connection and isolation. This

challenges previous claims that women hesitate to go online because of male-dominated Internet culture (Camp, 1996; Cockburn, 1999; Millar, 1996; Pollock and Sutton, 1997b; Spender, 1995). It also contests the notion that women are “limited and reluctant” Internet users (Heimrath and Goulding, 2001). This study demonstrates that the participants use cyberspace to fulfill a variety of needs. However, these women are purposeful in their online interactions in order to make the most of their time in cyberspace. This results in a more balanced use of technological artifacts in their daily activities.

4.1.1 Connection

In the interviews, the women reveal their hopes to be connected to technologies including the Internet. They also discuss the nature of the connections they make, and identify the types of connections that these technological artifacts afford them. The participants demonstrate a desire to be connected to people, services, information and education via technologies by regularly engaging with them and spending time online. All of the women interact with a variety of technologies. These include entertainment technology such as televisions, videocassette recorders, digital disc players, compact disc players, and computers as well as domestic technology such as microwaves, ovens and dishwashers.

In a recent study comparing men’s and women’s Internet perceptions the findings revealed that women were more willing to access the Internet in public locations. The researchers also discovered that while women use the Internet mainly to “solve

problems,” they also use it for leisure purposes (Heimrath and Goulding, 2001). The women in this study exhibit these philosophies towards their Internet use.

The fact that all of the women interviewed currently access the Internet in at least two different locations illustrates the effort they put into getting online. Of the eleven participants, six of the women use the Internet at home, six use it at school, two use it at their friend’s homes, one uses it at her parent’s home, and two use it in public places including the bookstore chain called *Chapters*, public libraries and Internet cafés. In order to be in the study, the participants had to use the Internet for at least five hours per week. While all of the women fulfilled this requirement, there were participants who vastly exceeded the minimum required hours of usage. The four women who used the Internet at both work and home go online for more than fifteen hours per week, while the three participants who went online at home and school used it more than ten hours per week. The finding that the participants were willing to access the Internet in a wide range of locations is consistent with the findings of another study on women’s Internet use. The researchers concluded that the women “must have perceived the Internet as useful to some degree or they would not have sought out additional access points” (Heimrath and Goulding, 2001, p. 123). Consequently, it would seem that the Internet is useful to all the participants in this study.

Many of the women talk about the nature of their usage of technologies and, more specifically, the Internet. While some women go online to perform certain tasks or to look for specific information, others spend time on the Internet, simply “surfing,” which denotes browsing for information. The amount of time that Alicia spends on the Internet depends on the task she is performing at the time. She shops for books and clothes and

makes travel arrangements through the Internet because it is quicker and more convenient than doing the same tasks offline. Alicia usually goes online for a particular purpose. She explains, "I'm usually looking for something specific, whether it's a recipe, a book at the library, health information or travel information. I'm going on for a specific reason as opposed to just going on to surf."

Jennifer is not in the habit of "surfing." After working between ten and twelve hours in front of a computer she gets "pretty tired" of that technology. She says, "at home if I don't have a purpose I would rather go to sleep instead of sitting there and searching." Jennifer enjoys the convenience of reading the news, doing personal banking, and looking for information because "you just move your finger and you can get it." Lena usually does not go online unless she has to look for something particular. She might end up "surfing" the Internet, but she says, "usually I'll have something I want to know about that I check first and I go there and look at it." For Lena it is still nice to go to the library to do research but it is easier and "more convenient if you have the Internet in front of you to look for certain things." Julie does not go on the Internet "very often." However when she does go online it is for "certain things." The amount of time that Lisa spends on the Internet depends on her energy level. She has a routine that keeps her usage balanced. This includes checking her mail, reading *Dear Abby* and *Ann Landers* and visiting a couple of other sites that she enjoys. As well, she saves up tasks for when she goes online. Lisa explains,

If I'm watching television and there is a site that flashes across the screen, I'll jot it down and I'll have a list to do while I'm on the Internet because I don't want to be running up at the drop of a hat to turn on the computer. So what I'll do is I just write it all out and I'll check them while I'm online.

Erica asserts that she is “pretty managerial” with the time that she spends online. As a result, she only “randomly surfs” every once in awhile for “maybe an hour maximum but probably less than that.” She says, “if I’m bored or having to get side tracked by the right thing I just follow the links, follow the links, and follow the links and then suddenly it’s a couple of hour later.” Jane spends about an hour per day “surfing the Net.” She looks around for information but if she finds something else that interests her, she pursues it. Elizabeth’s purpose when she goes online is usually to look for information. She only stays online for a duration of one to three hours, which she does not consider to be a long time. Megan goes on the Internet to look for information or to do research. She usually only surfs the Internet for half an hour or an hour because after that she gets bored and wants to do something else. When Bai goes online it is usually to check her email and she only stays on for approximately three to four hours at a time. Rebecca usually goes online to do research for school. She also uses it to do a lot her chores such as banking, shopping and paying bills because it saves time.

The interviewees identify numerous connections that technological artifacts including the Internet allow them to make. The three main types of connections that the women discuss include connections to people, connections to services and connections to information. All of the women describe connecting with family, friends, coworkers, professors, classmates and future employers through communication technology such as telephones, emails and instant messaging. For a lot of these participants email is an especially easy, cheap, quick and convenient way to “stay in touch.”

To save time many of the interviewees access various services online. Many of the women discuss the convenience that comes with banking, shopping and making travel

arrangements on the Internet. There are a few women who have used communication technology in order to access formal education. They agree with communication researchers who argue that distance education gives access to education to women who work full time or who do not live in the area in which the course is given (CCLOW, 1997).

The women discuss how communication technologies grant them access to information. A couple of the women mention that they watch the news on television or listen to it on the radio. The majority of the participants describe the way the Internet has connected them to various forms of knowledge. Some of the interviewees read newspapers online and look for travel information such as names and descriptions of hotels and hostels, train schedules and flight information. Others mention how they use it to plan their leisure time, look for employment, and find places to live.

4.1.2 Isolation

Some participants express concern that people will become isolated from each other by the overuse or overabundance of technological artifacts in our society. Bai points out that before email and the telephone, “if you did not see your friends for a long time you would go visit them or write a letter,” which she thinks is much nicer. She says that e-cards have replaced hard copy greeting cards, so “there is not much to keep.” Bai asserts that the prevalence of technology means that people have less time to spend with friends. She says, “now that you have television, you have computers, and you have the Internet you spend most of your time by yourself which is something so virtual.” Similarly, Alicia foresees “human contact potentially being replaced by all these services

and processes being done over the Internet.” She argues that not everybody wants to be that independent but instead still wants to have that “people contact.” Even though Jennifer had positive experiences learning through compact discs, she prefers to learn in a classroom with a teacher and classmates so that she can be involved in face-to-face discussions of the subject matter. She points out that when people learn by themselves, they lose interactions with other people. Similarly Bai thinks that the Internet is a good way to learn things. However she still prefers to go to school if she really wants to get some training. She maintains that this is “not because the Internet is not good enough, it’s because you are stuck by yourself.” Bai says that she likes to learn with other people because a student who learns alone sometimes does not feel as motivated. Erica asserts that the presence of technology in the classroom will not replace or jeopardize human contact and the teacher-student relationship. She contends that students will always need a guide to show them and now more than ever learning is about “bouncing ideas off of each other.” Rebecca argues that the constant Internet connection at the university she attends has isolated the students from each other at times. She says, “I think people have lost person to person communication.” Rebecca explains that the main modes of communication among students are instant messaging and email. She does not even know most of her friends phone numbers. Lena does not want to have a computer in her home because she is concerned that she would isolate herself by spending her free time online. Instead she uses it at work or at her friend's homes.

Perhaps Jane does not fear being isolated by using the Internet because she only uses for an hour per day outside of work. Similarly, Megan’s attitude of liking technology “to a point” means that she does not spend more than an hour a day online

during non-work hours. Julie limits her online usage to about an hour per day because that is “enough” for her. Elizabeth has turned the potentially isolating activity of “surfing the Net” into a social event by going to her friends’ houses to go online. She maintains, “it’s fun to go to my friends’ homes to check out different things. They show you different things that you’ve never seen or heard of before.”

4.1.3 Balance

Although feminist researchers have argued that women fear intimacy with technology because it threatens their gender identity, the women in this study express practical concerns for wanting to maintain a balanced use of technology that go beyond rejecting societal images of the computer nerd or hacker (Turkle, 1988; Hapnes and Rasmussen, 1991). For most of the participants, it is important that technology not overwhelm their lives. Some of the interviewees strive to achieve a balanced use of technology in their own lives while others call for more balance in the way technology is utilized in our culture. Rebecca admits that it is a challenge to balance her technology use in a setting that has twenty-four hour access to the Internet. However, she maintains that on Fridays the mentality of students is “get me away from my computer. Get me out to the bar or let’s go to a movie.”

Erica makes sure that she manages her time online because she realizes that a few minutes “random surfing” can quickly lead to hours. Bai, who spends between 15 and 20 hours a week on the Internet, says that the amount of time that she spends online is “good enough” for her. Julie says that one to two hours in cyberspace is enough because her eyes tend to get sore after awhile. Alicia could make more time for going online if she

really wanted to be on the Internet more. However she says, “I just think that if I had more time I would just waste it.” Lisa would not want to “spend too much more time because there is still a world out there.” She fears neglecting the rest of her life by spending too much time on the Internet. When she first got on the Internet, Lisa was online for hours because she found it “fascinating.” She remembers, “I spent way too much time and my sleep suffered.” Lena, who is a software tester for a high tech firm, maintains that because she is sitting at a computer all day she does not have a computer at home. She is concerned that she would spend a lot of her free time on her computer if it were in her home.

For some of the women, a desire for balance came through in their thoughts about the use of technology in education. Megan thinks that the use of technology in education can be positive but needs to be limited. She believes that while using a computer and the Internet in a lab for one class is beneficial, she does not approve of having computers in classrooms. Megan feels that it is important that students acquire manual skills like writing and drawing. While Bai and Jennifer are willing to use the Internet for informal learning purposes, they still prefer to take courses in a classroom if possible. Jane thinks that using communication technology to meet people is inappropriate. She does not go talk to strangers on the Internet or try to “find a mate” online.

4.1.4 Home Access: Ideal Conditions for Learning?

The need for women to have access to the Internet has been at the center of movements by various women’s groups to increase the number of female Internet users. With the exception of two interviewees, the women in this study prefer to have access to

the Internet at home. Of the six participants who currently have access to the Internet at home, all express that they favor going online at home rather than in a public location or at work.

Alicia prefers using the Internet at home because it is private and it allows her to focus on what she is doing. In public places she says, “you’ve got people looking over your shoulder while you are writing or they’re wondering what it is that you are looking up on the Internet.” Similarly Megan prefers to use the Internet at her parents’ house because she feels that she is “being watched” when she goes online at work. Both Alicia and Elizabeth agree that a benefit of using the Internet at home is that there are “no distractions.” Julie prefers home access. She says, “it’s more comfortable at home because I can just sit down and relax. I don’t get to sit down a whole lot at work.” Even though Rebecca has a laptop and Internet access in various locations, she still prefers to use the Internet in her residence room. She uses it there because, “it’s quiet and it’s just this environment that I’m comfortable in.” Lisa likes using the Internet at home because she has a quiet room for her computer so that she can read her email “in peace.”

Jane makes an effort to access the Internet by using it at a public library near her home and at Internet cafés. She admits that she would “really like” to have Internet access at home, but she “can’t afford it right now.” However, she feels that is the only factor holding her back from having home access. Two of the participants lost their Internet access at home due to technical problems. Bai gave away her computer because it did not work anymore. At the time she did not think that she would miss having the Internet at home, but now Bai says, “I think I have to have it.” Elizabeth lost Internet access at home when her “computer crashed” but she intends to have it again. She used

the Internet almost everyday “just for fun” when she had access at home. Currently she can only use it once or twice a week.

Neither Lena nor Megan feels that they need to have Internet access at home. Megan would like to have a computer in her home although she feels having an Internet connection is not necessary. Lena needs balance in her life. She is so tired of working with technology that she plans to make a change in career sometime in the near future. Consequently she ensures that her free time is not completely taken up with going online.

For many of the women having the Internet at home means “information at their fingertips.” Lisa turns to the Internet first when she has a question because it is in her house. She says, “it’s easy, I just have to run upstairs.” Lisa asserts that people do not want to leave their houses every time they feel like learning something. She explains, “That’s why the Internet is fantastic. It brings the world into your house.” Elizabeth used the Internet everyday when it was in her home. Now she only uses it when she can get access, which is about once or twice a week. Alicia argues that that the Internet makes it “easy to be educated.” She admits, “I know for me certainly there are lots of times where I’ve been able to access information that I just wouldn’t have bothered to if I had to put in any more effort like getting dressed and having a shower to go out and get it.”

The women who have access to the Internet at home appreciate the convenience of looking up information right there in their residence. Some of the participants in this study agree with the many studies, which argue that the more women use technology such as the Internet, the more comfortable and confident they feel. The interviewees with home access like going online at home because it is private, quiet, and comfortable and

has “no distractions.” One could argue that home access provides women with an opportunity to learn about and become more at ease with Internet technology, gives them the flexibility to use it when it is convenient for them, and creates an environment that is conducive to learning.

4.2 Quality of Access

Providing women with access to the Internet at home does not ensure that they will have positive online experiences. Nor does it increase the chances that they will use the Internet for informal educational purposes. The data gathered from the interviews indicate that in addition to location, four other factors determine the quality of access to the Internet for these women. These factors are the women’s feelings about and past experiences with technology, images the women have of themselves as users, the usability of equipment and the availability of support.

4.2.1 Feelings about Technology

The participants expressed ambiguity about which objects fall into the category of technology. This follows Wendy Faulkner’s argument that “women’s everyday encounters with technological artifacts are rarely recognized as such” (2001, p. 85). She argues that this is because people generally recognize “hard technology” like “industrial plants, space rockets, and weapon systems” as “real technology” while they fail to identify “soft technology” like kitchen appliances as belonging to the category of “technology” (Faulkner, 2001, p. 85).

When I asked the women about the technology that they use in their daily lives, many of them expressed uncertainty about what constitutes “technology.” Alicia was skeptical about whether appliances such as toasters, refrigerators, stoves, microwaves and kettles count as technology. Bai wanted examples of what I meant by entertainment technology and kitchen technology. Jane was unsure if a radio is considered to be technology. Julie was uncertain about whether or not to include her microwave in the category of “technology.” She says, “yeah, I guess you count my microwave as technology. I use it so often I almost forget that it is technology.” Erica wanted to know if technology means “just computerized type things.”

Each of the women could report both the benefits and drawbacks of interacting with technology. While the majority of women interviewed generally feel positive about technology, they still experience feelings of apprehension, frustration, and concern about the role of technology in our society. Apart from potential isolation and a loss of balance in their lives, the women report other negative aspects of dealing with technology that have been previously cited by feminist researchers as barriers to accessing the Internet (Balka, 1997; Heimrath and Goulding 2001; Osted, 2000; Pollock and Sutton 1997b, Shade, 1996; Shashaani, 1997). These include coping with technical failures and breakdowns, costs involved in purchasing and upgrading technology, and the need for effective training and support.

The interviewees indicate that most of their frustrations with technology stem from malfunctions or technical breakdowns. Lisa says that her Internet connection does not work all the time. She explains, “sometimes I really need to email somebody or send something to a friend and the darn thing does not work. And that is so aggravating. It’s

almost like it knows I need it.” Rebecca says, “it is frustrating when things break.” She experiences system crashes, network connection failures, and instances when the computer “eats her term papers.” Rebecca maintains that what is so frustrating about a technical breakdown is that “it’s time-consuming too because you are trying to accomplish something using the technology that is supposed to make your life faster and instead you lose three or four hours while someone is trying to fix your computer.” For Alicia technology becomes annoying when it breaks or does not work properly because “you become dependent on those things.” She says, “certainly your computer crashes and that’s inconvenient. Sometimes it makes more work than if you hadn’t been using that technology.” Erica has had some problems with trying to access a database web site for school. She finds the technical difficulties irritating because it slows her down when she is attempting to do research for school. Sometimes Elizabeth’s email is temperamental and she cannot access it. She becomes annoyed if the technology she is using will not work properly or needs to be repaired. Megan gets frustrated with her computer because she does not think that it performs tasks quickly enough.

Although Lena maintains that technology is good, she says, “it’s advancing really fast. I think maybe a little bit too fast.” She finds it difficult to keep up with constantly-changing technology. Lena also feels that she could not justify buying a computer and paying for an Internet connection because it is expensive and she just uses it to “surf the Net.” For Rebecca it is the cost of technology that creates an obstacle. She explains,

Everything is going so fast that you’ll invest money in something and then six months down the road they’ll come out with something else. My printer that I bought the first year was \$200 and now I saw it at the bookstore for \$50. Everything is changing so fast that you have to really be up-to-date on everything to have all the latest toys.

Even though Jane would like to have Internet access at home, it is too expensive for her to afford right now.

Some of the technical difficulties that participants have experienced can be attributed to a need for more effective training. One of Jane's early experiences with computers was negative. She remembers,

A teacher was showing us how to do something on the computer and I hadn't used it before so it was really difficult. And in the end I just had to go and sit by someone else who was doing it because I wasn't fast enough so that kind of was a negative thing. I needed him to be more understanding that I had never used it before.

While Jane is fairly comfortable using computers now, she says, "then it was sort of like I didn't ever want to look at a computer again." Elizabeth maintains that she did not learn much about how to use computers in school but instead learned mostly on her own.

Megan does not know how to protect her computer from viruses or how to get rid of them once they infiltrate her system.

It seems that for the participants in this study, technology has become "a practice" or "a way of doing something" (Franklin, 1999, p.12). It has become a way of communicating with friends and family and way to keep up with a time-driven society. With a couple of exceptions, the women maintain that the overall benefits of technology outweigh the drawbacks. The interviewees feel that it makes things easier, quicker and more convenient. Those who had positive attitudes tended to have a confident user image or were willing to learn more about the technology. As well a couple of the women mention that they had support in the case of technical difficulties, which means that they experience less frustration.

Alicia has “found technology to be very useful.” She says, “I have a very positive attitude towards it.” Alicia claims that technology makes her life easier and therefore more enjoyable. Although she gets frustrated when technology breaks down, she says that “overall the benefits far outweigh the negative aspects or frustrations that I would experience.” Bai thinks, “technology is great” because it is convenient and allows her to talk to her family in China. She gets aggravated with her computer when it malfunctions because she can get help from one of her friends, most of whom are “technical people.” Erica is “pretty comfortable with technology.” She is excited to use various educational technologies in the classroom during her teaching *practicum*. Although Jane thinks it is a “good thing” that the world is being surrounded by technology, she fears what would happen if all the computers crashed. Working for a high-tech company, Jennifer says, “technology is a normal common word” for her and she feels very comfortable using various technologies. Even though Julie sometimes wants to throw her computer out the window, she feels positive about technology because it allows her to “get things done quicker.” Lena thinks that technology is advancing too quickly. Nonetheless, she feels positive about technology and claims that when she uses it “everything goes very smoothly.” Lisa “loves” technology because she thinks it will make peoples’ lives easier. Rebecca is “very comfortable” with technology because her education requires that she use a laptop in the classroom.

4.2.2 Image of the User

The women’s images of themselves as users of technology have an impact on their confidence in using technology, their willingness to improve their skills and their

openness to using technology to learn. According to feminist communication researchers, technical training and exposure to technological artifacts helps to improve women's confidence and image as a user of technology (Heimrath and Goulding, 2001; Li et al., 2001; Shashaani, 1997). Some of the participants share this sentiment.

Erica has a very positive self-image as a user of technology. She says, "I think I use most technologies fairly competently." Even though she is not "fantastic" with computers, she is able to use any software that she needs. She claims, "I know how to find my way around things." Erica has been very successful finding information on the Internet. She downloaded "Copernicus," which utilizes 30 different search engines and compiles all of the search results. She contends that "if you use it properly it can do a really good job." Jane is getting more used to technology. At first using computers was "scary" but Jane asserts that the more she uses them the easier it gets. Julie also admits that technology "can be very intimidating." However she maintains that once an individual accepts that technology is here to stay and gets to know "all the ins and outs of it" then it seems less intimidating.

Lisa is "lucky" that she has "never had much of a problem learning" to use technology. She claims that she is "pretty adaptable." Jennifer is not the "best" person to operate technologies at home. She claims that her "dad is actually the person who really knows how to handle" them. Julie is a very impatient person who does not like waiting for documents to load on her computer. She admits that any problems with her computer are probably her fault "half of the time." Her husband tells her, "it's the end-user not the computer that's the problem."

Previous studies have indicated that female Internet users encounter difficulties when conducting Internet searches (Li et al., 2001; Heimrath and Goulding, 2001). Some of the participants discussed the challenges they face when looking for information online. Although Bai works in the high-tech industry as a computer programmer, she does not think of herself as a very “technological” person who is always in front of her computer. She is sometimes disappointed in her ability to find what she is looking for on the Internet. The fact that she spends hours searching the Internet unsuccessfully leads Bai to believe that she does not perform searches correctly. Similarly, Jane feels that her searches are ineffective because she is not specific enough in the terms she chooses. Lena also thinks that her problems with finding things on the Internet are related to the way she is searching for them. If she goes back a second time she can usually find what she wants. Lena maintains that the quality of the search engine and the wording of the search can affect the results. Megan’s search results are about half-and-half in terms of finding what she wants. Nevertheless she still feels as though she is successful in her searches. The women’s positive, solution-oriented attitude towards Internet searches is a stark contrast to Ford and Miller’s characterization of the female users in their study as “disoriented by and disenchanted with the Internet, generally feeling themselves unable to find their way around effectively” (1996, p. 90). Although the women express some frustrations with Internet searching they continue to spend hours searching the Internet and looking for ways to improve their skills.

4.2.3 Usability

Some feminist researchers argue that technology is gendered because “key specialist actors - especially in the design of new technological artifacts and systems - are predominantly men” (Faulkner, 2001, pp. 89-90). In an effort to discover what female designers of technology might do differently, I asked the women what they would change about the technology they currently use. Most of the technology usability issues that the women discussed were related to the computer.

Erica maintains that although things are “getting more and more user friendly” it would be nice to see more voice activated software. She would prefer that her computer be more automated so that she would not have to know particular codes and commands to make her computer perform tasks. Lisa agrees saying that she would like it if her computer could automatically clean up the “Dynamic Link Libraries” files that accumulate each year. She would like her computer to “do more work for itself.” She points out that most other technologies “pretty much run on their own” whereas the computer is “a complicated piece of hardware.” Elizabeth thinks that her computer would be easier to use if it was more like her stove. She would like to simply press a button and have the computer “go by itself.” Megan wants computers to be faster and not have “so many worms and viruses.” Rebecca would like to see improvements made in the security and stability of technology. Jennifer said that her life would be easier if her entertainment technology consisting of the television, the video cassette recorder and the cassette player were all linked to be one. Jennifer argues that it would be less confusing if there was one remote instead of three or four. Julie wishes that “there weren’t so many

wires to connect to other things.” She says, “We have about 15 wires that I have no idea where they go, where they connect to and they’re just kind of sitting in a ball on my desk.” However, she admits that when it comes to technology she wants “everything perfect” and that may be expecting too much.

4.2.4 Support

Feminist researchers argue that improved Internet training include ongoing user support and mentoring (Balka, 1997; Farwell et al., 1999; Osted, 2000; Pollock and Sutton, 1997b; Shade, 1996; Spender, 1995). This research has also shown that women value “support materials, such as computer manuals, ‘how to’ books, or instructional sheets to help them use electronic tools and access resources” (Farwell et al, 1999, p.108). Certain interviewees discuss the importance of various forms of technical support in their interactions with technology. Bai does not feel annoyed when problems occur with her computer because she has friends who can help her. When her computer crashed, her friend, who is a system administrator, helped out. In addition, whenever she has new software, he installs it for her. When Julie cannot find things on the Internet, she asks her husband Dave, who is a computer programmer, for help because he knows where to go. Lisa says that although computers are getting more user friendly, she still encounters problems. However, when she does have difficulties with her computer she can ask her boyfriend for assistance because he is a computer programmer. Jennifer’s dad handles the technologies at home that she finds troublesome to use. Although he does not know much English, Jennifer says that he can follow the user guides and connect all her entertainment equipment properly. When Rebecca experiences

frustrations with her computer technology at school she can go to the on-campus User Support Center for help.

For a few of the women, lack of support is a source of frustration. Alicia thinks, “the support systems that are set up for the technologies aren’t really useful. So when you do have those glitches or problems you can’t get them fixed the way you would like to.” Jane wishes that the “helps” on computer programs and the Internet actually worked. Both Jane and Elizabeth would have like to have more training on computers, however they have managed it figure out how to use the technology on their own.

4.3 Technology and Education: Compatibility or Conflict?

Communication researchers point out that technological artifacts are increasingly being used in formal education (Apple, 1997; Bryson and de Castell, 1995; Cahoon, 1998; CCLOW, 1997; Kantrowitz, 1997; Kay, 1997). A report by the Canadian Congress for Learning Opportunities for Women maintains that not only are new communications and information technologies potential new learning technologies but they can also provide women with improved access to learning (1997).

To varying degrees the women in this study express their support for the use of technology in the classroom. Once again they stress that maintaining balance is important when using technology. They argue that although technology can benefit students, there are challenges to using effectively in education.

According to the participants technology can enrich the learning experience in formal education by bringing experiences into the classroom, presenting information in a more interesting and in-depth way, improving student’s technology skills and making less

work for students. For some of the women technology has the potential to create a more hands-on approach to education by bringing experiences to students in the classroom.

Lisa maintains that using a digital camera, she could create “a digital walking tour of Ottawa instead of having a field trip.” All she would need is to do is take some photos of Parliament Hill and other attractions in Ottawa then make a PowerPoint presentation.

Lisa says, “so you are bringing the information to them but you don’t have to book a field trip to walk around.” Alicia asserts that using videos in the classroom is another way of “taking students outside of the classroom” without physically leaving the school. She explains,

So if you’re teaching play therapy and you can’t take them to a hospital to show them what play therapy is like then you would be able to show this video. In a sense you are taking them outside the classroom and into a play therapy environment without really doing it.

Alicia also sees the potential for using the Internet in a similar way. She explains, “I mean to be able to bring up the Internet and go to a specific site to show students what you are talking about is really great for the hands-on approach.” Julie agrees that the Internet can be “a huge learning tool.” She thinks that students can only get so much information from books and that the Internet has more to offer them in terms of learning experiences. Similarly, in his book *Adult learning and the Internet*, Brad Cahoon recognizes that students go online to “achieve different kinds of learning through different types of educational experiences” (1998, p. 65).

For some of the interviewees using educational technology helps to make presenting information more interesting and allows for the presentation of supplementary knowledge. According to future educators Lisa and Alicia, using technology in the classrooms “grabs the students’ attention.” Lisa argues that student “react better” to

PowerPoint presentations than overheads because they “look fabulous and they’re more interesting.” Alicia maintains, “people in this generation are so tapped into technology. It is something that they can relate to and you really get a hold of their attention and pique their curiosity that way.”

Another benefit of using technology for students is having “access to so much more.” Erica points out that teachers can hyperlink to web sites or link back and forth to different presentations. Lisa asserts that while her professors have not really applied the Internet to their courses, it has the potential to be used for more than posting office hours and phone numbers of professors. She says, “I think it would be useful because you could put extra resources on for students or photos and exemplars, like examples of what you want for assignments.”

Research has shown that exposure to technology and technical training increase women’s confidence when engaging with technology and improves their attitudes toward it (Balka, 1997; CCLOW, 1997; Osted, 2000; Pollock and Sutton, 1997b; Shade, 1996; Shashaani, 1997). For a couple of the participants, the main benefit of using educational technology is improving the skills of students so that when they are finished school they are computer literate and feel comfortable with technology. Jane claims that the major requirement for most of her jobs has been computer literacy. She says, “a child is going to need to know how to use a computer when they get working.” Elizabeth also supports the use of technology in schools starting at an early age.

A few of the women mention that they are thankful for the experiences they had with the Internet in formal education. Jane was “forced” to use the Internet in university to get extra information about a professor’s seminar that was not available anywhere else.

Jane is happy that she had that experience because it helped her to know “what was going on with the Internet later on.” In Erica’s fourth year of university she had a professor who posted most of the information he wanted his students to know on an electronic bulletin board. For their final project Erica’s class had to make web pages, which she says “was a little bit overwhelming because we didn’t have a lot of direction and most of us had never done it before.” However, Erica managed to figure things out. She says, “it was good. Sometimes getting thrown into something is a good way to learn it.”

Lena was happy to be introduced to the Internet in university because she had been hearing about it and was wondering what it was. Her professors made the students learn how to use email and search the Internet even though it did not directly impact what they were learning in class.

Some of the participants feel that technology makes less work for students. Both Jennifer and Bai had professors who prepared course notes on slides and made them available for downloading off of the Internet. Jennifer says that the slides were good because she “hates to write” and she would rather listen and participate instead of copying notes. Both Lena and Megan think that technology could help students to be more organized because their notes might be neater and more orderly if they were typed.

The women identify several challenges to using technology in the classroom. They include adequate funding, technical breakdowns, and appropriate use. Both Lisa and Erica express concern that there is not enough funding for the use of technology in public schools. There is one digital projector at the school where Erica will be teaching and the computers she has to work with “aren’t all that wonderful”. She says, “so I should be okay for my *practicum* but if there were ever a couple of teachers who wanted

to use the same thing it wouldn't be possible." Similarly Lisa says, "at my placement school for instance they only have two of those projectors that attach to computers so that you can show whatever is on the screen onto a screen in front of the classroom."

A couple of the interviewees assert that organization and good technical support are necessary when incorporating technology into the classroom. Bai maintains that in the case of tele-teaching there needs to be a "technician who really knows" how things work "so the whole process will go smoothly." She also points out that teachers have to prepare their classes "very well beforehand." Lisa argues that when you are putting something educational together with technology you have to "ensure usability." She tried to get into an online conference once but it was so badly designed and had so many steps for the user to take that she has not gone back since.

Many of the women think that technology can enhance learning, however, a few participants stress that appropriate implementation is important for making pertinent use of technology. Julie did not use the Internet in university "as much as other people" who were in disciplines that could gain relevant information by going online. Even though she got most of the information she needed from her textbooks, she went online to get "different ideas of how to do things." However, she says, "if I took computer information or nursing or communications I would probably have used it more." Alicia maintains that using the Internet in formal education in the Recreation Management field has not been a priority. She claims this is because the faculty and students in the field are not "techie people" by nature. Rebecca feels that if used properly, technology can make education more applicable and more efficient. For instance, she says that the use of the Internet to get stock market updates is helpful for finance students. On the other hand,

she recognizes that some educators use technology only because they have to and then it becomes “just colored chalk.” Rebecca points out that not all subjects are compatible with using technology. She says that her research methods course could not really be taught using the Internet. The only thing her professor could do to include technology into the classroom lecture was to make up PowerPoint presentations.

The issue of balance arises when the women talk about the use of technology in education. Megan is concerned that excessive use of technology in education could undermine the development of manual skills such as writing and drawing. As a result, she refused to take an architecture course that used computers instead of manual techniques. Jane is fearful that technology in the classroom might negatively impact children’s recreation patterns. She says, “they’re going to sit in front of the computer and play games instead of wanting to go out and do sports.” As a future teacher Lisa worries that overusing technology in the classroom could make it less exciting in the eyes of her students.

For some of the participants, the balance of using technology in education can be tipped towards the isolation side of the scale by taking a distance education course. Despite having taken a distance education course through her work, Jennifer would “prefer to learn in a different way.” Given the opportunity, she would choose to learn in a classroom where she could carry on discussions with other classmates. Lena took an online course through the high-tech firm that she works for and thought it “was kind of neat” and “a well taught course.” However, she would elect to have an instructor in front of her because it makes her feel better about the learning process and there is “more human interaction.” Even though Alicia would take a distance education course under

certain circumstances, she favors taking courses she is really interested in, in the classroom. She says, “I would rather be in the classroom because I would want to interact with other students and I would be willing to devote the time to it.”

4.4 Context

This exploration of context is a quest to illustrate the lenses through which these eleven women see their colloquial connections to the Internet. Another goal of the study is to investigate whether or not these women value the Internet as an informal educational tool. I asked the participants, “when you think of the Internet what comes to mind?” In the follow-up questions, I prompted them on whether they view the medium in terms of entertainment, politics, education and information. For these participants, the context of the Internet is closely tied to their online activities.

4.4.1 Security

Some researchers have examined how some women experience sexual harassment and hostility online (Kalda, 2000; Millar, 1998; Osted, 2000; Spender, 1995). Only five of the women addressed personal safety issues when questioned about Internet security. Their personal safety concerns focused on chat rooms as potentially dangerous spaces on the Internet. The main security issue for most of the participants was using their credit cards online. In contrast to previous studies, none of the interviewees express safety concerns over gaining access to the Internet in public locations (ibid). Denis Osted points out that access is not “being a female student at a school or university with free access

where the computer lab is run by guys who'd rather play Carmageddon or hit on you than teach you the simplest thing about how to use email" (2000).

Most of the women think chat rooms potentially compromise women's safety online. In many cases, these women do not go into chat rooms because they feel it would place them in precarious situations. When she is online, Alicia is not concerned that people will find out her identity. She explains that she has never felt unsafe on the Internet because, "I'm not really going into chat rooms or signing up for obscure web sites in order to get stuff." While she subscribes to a couple of mailing lists she says, "I've never, ever sent a message to them." She realizes that "the potential is there for it to be unsafe and so I just don't put myself in the situation." Bai does not go into chat rooms either. She claims that most people she knows who go into chat rooms are younger than she. Elizabeth does not go into chat rooms because they are "a little bit dangerous." She has heard that in chat rooms people try to "talk to you and pick you up." Lisa tells a story about a friend of hers who is a "very trusting person" and new to the Internet. Another Internet user found her friend's phone number and made comments such as "I know where you live." Lisa's friend stopped going online and since the incident happened she has moved. Despite knowing about this experience Lisa is not afraid for her personal safety on the Internet. She is more careful than her friend who she describes as "naïve." She says, "the Internet can be used for fun but it's not for pouring out your heart." Lisa recognizes that there are some "weirdos" out there so "you just have to be prudent and look after yourself." Julie does not express fear about people finding out who she is in cyberspace. She remembers going to a web site where people can find out how their classmates from high school are doing. She filled in her name, the

city she lives in and even included her postal code. People thought she was “nuts” for filling in that information but Julie is not concerned about it. Nevertheless Julie maintains that she is not as “naïve as some people are” because she generally does not put her credit card information on the Internet.

4.4.2 Political Organization

A significant body of literature has been devoted to women’s use of the Internet for political organizing (Shade, 1996; McCully and Patterson, 1996; Pollock and Sutton 1997a; Escobar, 1999; Harcourt, 1999). While some of the women can see how the Internet could be mobilized in this way, most of them do not relate to this context. Elizabeth thinks of books and newspapers not the Internet when she imagines politics and organizing for various causes. In Erica’s mind one of the good things about the Internet is that it does not have a political “root.” Both Julie and Jennifer do not conceive of the Internet as a tool for political organizing but rather see it as a vehicle for the news. Some of the other women mention that they can understand how the Internet is used for political organizing. However, they claim that they are not “political people” and therefore do not view the Internet in such a context. Alicia says, “I know that people come together as a community around political issues and so obviously the Internet would allow people who have similar interests but are spread out to come together around a certain issue.” Nonetheless, she argues, “I don’t really think of it that way just because I’m not political.” Only Rebecca seemed to be able to think of specific ways that the Internet could help with political organization. She remembers that during a professors’ strike at the university she attends, the Internet was used to transmit the negotiations

between the administration and the faculty. She maintains that using the Internet is a good way to “build interest” about a particular cause.

4.4.3 Entertainment

Entertainment can mean a variety of things to different people. It is whatever an individual finds amusing or enjoyable. Seven of the women view the Internet as a form of entertainment while four of the women do not. For some of the interviewees the Internet contains activities that society traditionally identifies as entertainment such as music, movies, television shows, and games.

Rebecca “definitely” thinks of the Internet in terms of entertainment because she downloads movies and music from the Internet. Alicia asserts, “when I was on Napster I could spend hours and hours downloading music and even though it wasn’t entertainment in that moment, I knew that it was going to create entertainment later.” Julie goes on the Internet to read follow-up stories to the television shows *The Wedding Story* and *The Baby Story*. She also reads about celebrities in an online version of People Magazine. As part of Lisa’s regular online routine, she likes to read *Dear Abby* and *Ann Landers*. She also enjoys visiting a web site called Planet Feedback “where people write letters to companies either complaining to them or complimenting them.” She says that the site is funny and makes her laugh. Erica thinks of the Internet as a place to go for entertainment “to a point.” She remembers, “when I was really bored last summer I spent a lot of time playing games.” Jane also uses the Internet to play games once in awhile. However, she says, “I played games when I was younger more so than now.”

Looking online for information is a form of entertainment for some the interviewees. Lena claims that searching for knowledge on the Internet is a good way to alleviate boredom. Rebecca thinks that she visits certain web sites for her own “amusement.” Julie argues that parents could use the Internet to entertain their children in a more educational way than television. These participants seem to view the Internet as a form of “edutainment.” David Whittle explains, “cyberspace offers the promise of education that is often indistinguishable from entertainment” (1996, p. 37). He argues that the benefits of this type of learning are that it is based on his own interests and timetable.

Four of the participants assert that they do not see the Internet in an entertainment context. Bai does “not really” view the Internet as a form of entertainment because she does not have much free time. She says, “since I came to Canada I’ve been in school most of the time. Even now I’m working and still doing my thesis part-time and I go to my church every Friday and Sunday. So there is not much time for entertainment.” Even though Elizabeth sees how the Internet could be a type of entertainment, she does not view it that way because she does not go online for that purpose. Jennifer regards the Internet as a source of information rather than a form of entertainment. Even though Megan sometimes plays games on the Internet, she does not think of going online as a source of entertainment.

4.4.4 Education

Previous studies have shown that women consider the Internet a valuable tool for education and “useful for course study and research” (Heimrath and Goulding, 2001; Li

et al., 2001). However, the women in these studies expressed concern about the reliability of the information on the Internet and tended to rank it behind printed academic sources.

With the exception of one participant, all of the women view the Internet in an educational context. Interestingly, the women have different definitions of the word “education.” A few of the women discuss their view of the Internet as a tool to help them with formal education. Elizabeth used educational web sites to aid her research for projects that were assigned in high school and college. Rebecca regards the Internet in an educational context because she attends a university that uses laptops in the classroom. She argues that the abundance of Internet access all over campus means that she spends most of her time online looking for information pertinent to her studies.

Some of the women describe how they think of the Internet in a more informal educational context. Alicia claims that she turns to the Internet when she has a question. She says, “I would say that anything I need to know now the first place I look is the Internet.” Julie asserts that if people use the Internet in an appropriate manner, they will be able to find lots of educational information. Lena thinks of the Internet in terms of education because “It’s a place where you can find anything you want. A lot of times I’ve heard about something I don’t know like a disease, or if I sick, I look it up online.” Megan views the Internet as educational because learning is usually her purpose when she goes online. Bai agrees that the Internet is a good way to educate oneself. Jennifer would “not quite say” that the Internet is “education.” Instead she chooses to characterize it as “a way of learning new things.” In contrast to the rest of the interviewees Jane does not think of the Internet in terms of education. She says, “I don’t really use it for

education other than if a friend is looking for something specific. If I have a question or have something to figure out then I go look.”

4.4.5 Information

The notion that the Internet provides an informational context was the most popular characterization among the participants. Alicia asserts that the Internet allows for easy and convenient “access to all kinds of information.” When Bai first wanted to create a web site she went online because “now most of the information you want to find is on the Internet.” When Elizabeth thinks of the Internet she pictures the World Wide Web as a fast, big source of information where “you can find what you want.” For Erica and Lena search engines come to mind when they think about going online. They spend most of their time in cyberspace pursuing knowledge. Rebecca also sees the Internet in an informational context because she spends most of her time online researching and “sifting through information to find pertinent things for school.” Jane uses the Internet to look up very specific information. She explains that she and her friend participated in a murder mystery dinner set in the 1920s. She remembers, “we got on the Internet and found out everything we could find out about the 1920s and looked at the little advertisements from then and what they wore and things like that.” Jennifer thinks of the Internet as a “very useful tool to get information.” If she wants to find out about something, Jennifer will usually turn to the Internet first. If the information on the Internet is not good enough then she will call someone. Lisa appreciates that some of the information on the Internet is more current than a lot of information available in the university library. However, she warns users to be critical of the information that they

get from the Internet because it is not necessarily credible or reliable. The Internet is an informative, interactive medium that Megan uses to look up “just anything that pops into my head.” When Julie envisions the Internet, she sees “a Milky Way of information that’s spinning around and around. It’s kind of big and there is a lot of information out there.” As a result, she spends time online seeking out information and just “finding out what’s out there.”

4.5 Information = Education?

The fact that the participants in this study view the Internet in both informational and educational contexts raises the question of whether or not looking for information on the Internet is a form of learning. A report on new learning technologies written by the Canadian Congress for Learning Opportunities for Women recognizes that “learning is never just one discrete activity or process; like any other aspect of human activity it is multifaceted and complex” (1997, p. 32). In order to discuss how new learning technologies support users, the report identifies three common elements of learning. These elements are “finding information, integrating knowledge, and developing skills” (ibid, p. 32). It is possible that because “finding information” is an element of learning, people mistake it for an educational experience in and of itself. However, researchers argue that learning “refers to the processes, often cognitive, by which we come to know” (Flannery, 2000, p. 112). Consequently, after gathering information the learner must “apply it to a particular context” (CCLOW, 1997, p. 32). This leads to another significant part of learning that involves integrating “the development of judgment, social and relational skill, and application of new learning to one’s life and work” (ibid, p. 33).

According to the report this integration can often take the form of skill development.

The women's accounts of their Internet use indicate that there are instances when they are simply searching for information that does not constitute learning, such as the weather, flight schedules, apartments for rent, job opportunities or the hours their local library is open. However, there are numerous examples of how finding information in cyberspace allows the women to apply knowledge to develop a skill, to help them achieve goals or to gain a better understanding of the world around them. The ways in which the interviewees use the Internet for informal education will be discussed in the following sections.

4.6 Informal Education vs. Formal Education

While most of the women value the Internet for providing convenient information to educate themselves, there are those who indicate that informal educational use of the Internet is limited compared to formal education. Nevertheless, all of the women cite examples of how the Internet has helped them to learn about cultures, customs and traditions, learn about hobbies, learn about gender roles and learn in order to achieve career goals.

The majority of the women turn to the Internet first when they are looking for information. Jennifer uses the Internet to learn about topics she has not heard of before or to find additional information about a particular subject. When Bai needs to know something she turns to the Internet because "now most information you can find from the Internet." She was disappointed that her computer science professors did not teach her how to "weave a web page." So she went to the Internet, found the information and

taught herself how to create a web page. Lena maintains that “you can find anything you want” on the Internet. Once when she was feeling ill Lena went online to find information about her symptoms and found an herbal remedy page that she used to get better.

When Jane went to a particular web site to find out how to make a recipe, she was surprised to find a history explaining where the recipe came from. She explains, “it encourages me to learn because there is more than just what you are looking for on the site when you go in.” Even Jane claims she does not “really” use the Internet for education, she uses it if a friend is looking for something specific or if she has a question or needs to figure something out. She appreciates the variety and depth of information that can be found online as opposed to in books. For Julie a positive aspect of the Internet is “learning.” She asserts, “You can learn about geography or anything you want to know. Whenever you are online you are searching out there and finding what is out there.”

While all of the women share the benefits of their use of the Internet for informal educational purposes, some of them point out the limitations of this use in comparison to formal educational opportunities. Jennifer thinks that the Internet is a “major” tool for people who are no longer students because “it is a way to keep learning without having to go to school.” Except for the learning she does at work, Jennifer asserts that the Internet is the way that she keeps updated on current information. Nevertheless she asserts that “going to school can make a big difference.” She says, “There are a lot of things you can learn from school in a more organized way than looking here and there on the Internet.”

Bai maintains that cyberspace contains useful information for people who want to educate themselves. She points out that instead of paying tuition to an educational institution, “you can just go to the Internet to find what you want.” Even though Bai thinks that the Internet is a good way to learn, she prefers to get formal training. The reason is not that the Internet is “not good enough” but that she does not want to lose the human interaction of a traditional classroom situation. Julie is uncertain about her ability to learn independently. As a result she is concerned about taking an online course that will require her to learn using only information from the web. Although it is a formal educational course, she fears the informal style learning that distance education sometimes produces. She says, “I’m so used to going to school and having a teacher teach me.”

While Lena was able to find information online about learning to play her guitar, she says, “I took a class because it is easier to learn than me learning by myself.” Now that she is finished the class, Lena claims that she is going to go back to the Internet to see how she makes out learning by herself. Occasionally when Alicia goes online to entertain herself, she ends up educating herself. She explains, “sometimes just because I am bored, I stumble onto and learn all kinds of things that I wouldn’t have otherwise.”

While the women in this study view the Internet through different lenses and place varying values on their time online, they all have examples and stories of learning in cyberspace. The following sections will describe the ways in which these eleven participants use the Internet for informal educational purposes. In this study informal education refer to any learning that takes place outside settings designated specifically for formal education. This broadly defined term includes those learning experiences that

enrich and empower women's lives. Therefore the women were questioned about whether they have used the Internet to learn about cultures, hobbies, skills, customs and traditions.

4.6.1 Learning About Cultures

Many of the interviewees who use the Internet to learn about various cultures tend to do so in the context of travelling to another country. Alicia claims that her lack of international travel has limited her online searching about other cultures. She believes that travelling would cause her to be interested in learning about other cultures. She argues, "so I think that if I were travelling for example to Spain or England or Australia then I might be more inclined to check that out." Rebecca has done "a lot of travelling" to different parts of Canada and the United States. She uses the Internet to "find out more about the area" that she is going to. Elizabeth applied to be a missionary worker in Mexico. She looked on the Internet to "find out about the culture" so that she would know what to expect if she was selected. To prepare for her trip to Europe, Megan went online to learn the history of places she planned to visit. Lisa and her boyfriend are planning to go to Europe in the next couple of years. She has been online, "looking what's up in Europe." She says, "I found out that there are some really great spas that I want to go to." This illustrates that learning about cultures and other geographic locations online can help women to plan their vacations and be informed without having to rely on travel agencies. Consequently, the Internet provides them with an opportunity to find out whatever specialized information that they might want to know in order to enrich their experiences in other lands.

For two of the participants the September 11th terrorist attacks on the United States prompted them to turn to cyberspace in an effort to gain a better understanding of the current events. Both Jennifer and Alicia went online to learn about the Muslim culture. Alicia explains, “I was really curious about the Muslim religion and the people of Afghanistan and the way that they lived and their belief system and that kind of thing. So I did a little bit of searching about that.” Even before the terrorist attacks, Erica was searching on the Internet for information about Saudi Arabia. Her fiancé is in the military and he was going to be sent there next so she printed off all of the “rules and regulations of going to an Islamic country.”

Inspired by more positive events, Lisa and Rebecca went online to gain more information about peoples living in other nations. Alicia’s Global Issues course prompted her to go online in her spare time to look up traditions in sport in Hong Kong. When Lisa was reading a book that had a character from Chile, she went online in order to find out “all about Chile and Chilean culture.”

A few of the interviewees contend that they use the Internet to learn about culture in Canada. Alicia has looked up information about the Mennonites because they live in her area. She went online in order to discover “the difference between the old order Mennonites who use the horse and buggy and the Mennonites who wear regular clothes and go to regular school.” Lisa says that she uses the Internet to keep up on cultural events going on at the National Art Gallery and the Museum of Civilization.

Jennifer and Bai have used the Internet to adapt to and learn about Canadian culture. Bai remembers visiting an Ottawa events web site and discovering that there are maple bushes around Ottawa. She decided to take a maple bush trip after going online

and learning the history of maple syrup and how it was made. Jennifer did not know what Valentine's Day was about and she did not want to ask anyone, so she turned to the Internet for information. Both women said that they read Chinese newspapers online in order to keep up on events in their country and they both maintain that they can find plenty of Chinese content on the Internet.

Cyberspace allows a couple of the interviewees to learn about different cultures in order to understand someone they have a relationship with. Lisa explains that because her boyfriend is half German and "really identifies with his German culture" so she has gone online in order to learn more about German culture. She was also "curious" to learn about Finland so that she could understand more about the place where her pen pal lives. Similarly, Julie went online to look for ways to incorporate her husband's Asian culture into their wedding.

4.6.2 Hobbies

Many of the women could think of examples when they had used the Internet to learn a hobby. The most frequent answer was cooking; many of the women stated that they had looked up recipes on the Internet. Jane was surprised to find a whole history on where a particular Gingerbread House recipe came from when she went online in order to find out how to make the snack. Julie asserts that although she had not really thought of using the Internet to learn a hobby, she has looked up recipes. She explains, "if I am looking for a chocolate chip cookie I will go to Chatelaine.com." When Julie is searching online for recipes, she will specify the type of dish such as appetizer or entrée or what kind of meat. She has not gotten recipes off the Internet a lot, but admits, "I've

done it a couple of times if I can't think of something to cook." This demonstrates that while the Internet can provide women with easy access to recipes that help to enhance their leisure time, it can also assist women when they are performing cooking as a household chore.

The Internet has proved to be a useful tool for the interviewees who consider travelling to be a hobby. Alicia explains, "anytime I've gone on trips, I've used it for finding maps, directions, hotels, and basic information about hours of operation." She remembers,

When I went to Washington I needed to know when the White House was open and where to get tickets. We organized our trip around having that information which we wouldn't have been able to get until we got there if we hadn't had the Internet because you can't get the physical pamphlets until you are there.

Alicia anticipates that she will be using the Internet to look up facts for her trip to Edmonton in May. She contends, "I am sure that I'll be looking up the West Edmonton Mall to figure out how many kilometers I'm going to be walking and whether I need to wear sneakers or my roller blades."

A few of the women mention that they used the Internet to learn how to make specific crafts. Alicia used the Internet to learn how to make "gifts in a jar" to give away at Christmas. Erica went online to find information on knitting because her friend Heather wanted to take up a new hobby. Rebecca explains, "my mom got a sewing machine so I'm going to make my own curtains and pillowcases when I'm home so I went online to find a pattern." Megan uses the Internet to look up things related to her hobby, which is painting.

Information on the Internet has helped a couple of the women to learn how to cultivate plants. Alicia went online to figure out how to take care of a Christmas cactus

that she received as a gift. As well, she maintains, “when I planted a whole bunch of flowers this summer, I looked each of them up on the Internet to kind of find out whether I should plant them more in the shaded area or if they should get sun.” While Jane has not yet used the Internet to find out about gardening she plans to in the future. She maintains, “I’ll have to go and check a little bit about gardening because my plant really hasn’t grown.”

When they want to learn about physically active hobbies, a couple of the women contend that they turn to the Internet. Rebecca started mountain biking in her first year of university. Although she knew other people in the sport, she was too intimidated to ask them questions. Instead she went online to read more about “the current trends and practices.” Lisa says that there are some Tai Kwon Do web sites that she likes to read. As well, she used the Internet in order to find out about yoga. She remembers that “a few years ago I got into yoga and so I started checking it out on the Net. So I learned a little bit about it before I got into it. I like to learn or try before I buy.”

Lena looked online for information on playing the guitar. In addition she decided to take a class “because it’s easier to learn than me learning by myself.” In contrast to the other women, Elizabeth claims that she “would never go on the Internet to find a hobby or how to make something.” She argues that she would just get a book or go to a class.

The Internet can help women to enjoy their leisure time more by providing them with cheap, easily accessible information about hobbies. Using information on the Internet as a starting point, women can discover new hobbies or add to their knowledge about hobbies they already engage in.

4.6.3 Gender Roles

Cyberspace has the potential to help women to learn more about traditional gender roles such as those assigned to women who are getting married. Women often need to learn about the various customs and traditions that go along with being a bride or a maid of honor. Similarly, there is a set of knowledge that women are required to learn as a mother. A couple of the women indicate that they go online in order to obtain this type of information. The participants also talk about how they use the Internet to help them in their roles as sisters, finances and brides.

Some of the women expressed that they had used the Internet to help themselves in various family roles. Bai maintains that she helped her sister in China to get some books that she could not get in China. She received an email from her sister with the names of the books and then she looked the titles up on the Internet and ordered them from Chapters.

In her role as a fiancée, Erica used the Internet to try to figure out where her wedding is going to take place. She admits that she also goes online to gather information about the country where her fiancé, who is in the military, is being sent next. For example she found out the various rules and regulations for living in an Islamic country. Julie also turned to the Internet as a bride planning for her wedding day. She searched for information on some wedding customs and traditions that would reflect her husband's heritage. Alicia was uncertain about her duties as the maid of honor at her sister's wedding. Consequently, she went online to learn about her role, especially the task of giving the "toast to the bride."

Lisa talked at length about how the Internet has helped her in learning how to be a woman who is “child free.” She remembers that she had “trouble” with her boyfriend’s mom because of their childfree stance. Lisa has found a lot of web sites about being child free. She discovered these sites about a year ago and she maintains that they made her realize that she is not alone in her choice. Lisa asserts that these sites serve as a support mechanism for her and provide her with lots of resources about being child free. She has bought many books on the subject as a result of reading about them on the Internet. As well, Lisa argues that the Internet has helped learn about her boyfriend’s German culture. She said that she has used Internet translating sites in order to communicate with her boyfriend’s German relatives.

4.6.4 Career Goals and Achievement

Many of the participants use the Internet to learn about companies or organizations, learn about the job they have, or to learn about things going on in their particular field of interest. When Alicia applies for a job she uses the Internet to “find out about the organization and the area that I might be potentially moving to.” The department that Jane works for has its own web site. She goes there to obtain information about her department’s mandates and to find out about other governmental departments.

Both Bai and Jennifer use the Internet to deal with the high-tech language involved in their jobs. When Bai first started her job in the telecommunications field she encountered numerous acronyms that she did not comprehend. She went online and found a web site that allowed her to type in acronyms and receive “detailed information

right away.” When Jennifer joined the marketing team in a high tech firm she “did not even know the lingo or the high-tech terminology.” She had to write a paper about “IPVPN” and she did not even know what it meant. Luckily, Jennifer was able to get the information she needed from the Internet.

For the women who are still in school the Internet can be a valuable way to help them with *practica* or assignments or to keep up with developments or advancements in their fields. Lisa uses the Internet to look at lesson plans in preparation for her teaching *practicum*. She has also gone online to look at various marking schemes. Erica claims that last year she looked up various syndromes that children she was working with had. Although formal educational programs motivate these uses of the Internet, they are a choice of research method rather than a mandatory part of the curriculum.

Many of the women use mailing lists as a way to keep up with developments in their field of interest. Alicia is on a mailing list for the Society of Park and Recreation Educators. She asserts that a lot of job postings come through on that list. She says, “I’ve kind of gotten to know people in our field from the comments that they put out and the things they say.” Erica is on some teacher-related mailing lists that post upcoming events. Jane is on a mailing list for job postings. She receives email every time a job is listed that contains keywords that she has pre-selected. Both Julie and Jennifer were on similar lists before they found their current employment. Lisa is on a list for beginning writers because she would like to pursue that career someday. Rebecca is on the Leisure Information Network news mailing list and the National Parks and Recreation Board list and a Sport Management list which all serve to keep “everyone up-to-date on things.”

This shows that the Internet allows interviewees to independently gain knowledge that will aid them in the performance of their current employment or assist them in achieving future career goals and ambitions. Rather than having to ask employers or co-workers for help, women can turn to the Internet for easily accessible information thus empowering them in the workplace.

4.7 Communication

Previous studies have shown that women value their use of the Internet for communication (Balka, 1997; Harcourt, 1999; Heimrath and Goulding, 2001; Li et al., 2001; Pollock and Sutton 1997a; Pollock and Sutton 1997b; Shade, 1996; Spender, 1995; Teo, 2000). However, as some researchers have shown, women's voices are sometimes silenced or drowned out by aggressive male Internet users (Kalda, 2000; Kramarae, 1997; Spender, 1995). None of the women in this study expressed that they had personally encountered hostility or harassment from male users in cyberspace. However, most of the interviewees do not participate in chat rooms or voice their identity in an effort to stay safe.

The majority of the participants use communication technology to connect with other people. These connections can be used to maintain relationships with people or to exchange and share information. Some interviewees express that email technology provides them with a more comfortable way to contact people.

The majority of the participants express that they value email for its benefits of being a cheap, convenient way to stay in touch with family and friends. For Alicia email is convenient because "sometimes you don't feel like you have time for a phone call or

you don't have energy for a phone call but you want to let somebody know that you are thinking about them so you send off a quick email.” For Bai who lives far away from her native country, email is “a way to talk to your friends on the other side of the world” that is cheaper than phoning. Jane also notes that email is cheaper “than mailing things or using the telephone” stating that she uses the Internet to send Christmas cards. Erica’s family and her finance’s family live far away. Consequently, she does not telephone them anymore and rarely writes hard copy letters or sends cards except for birthdays and Christmas. Similarly Lisa uses email to communicate with her boyfriend’s family in Germany.

For some of the women, communication technologies provide ways of sharing and exchanging information. Erica says, “we spend a lot of time sending attachments of information covered in class. If somebody does something that is really good that we might all be able to use they’ll mass email it to everybody else.” Jane likes using email to share information with other people because it is easy to copy web site links into a message and send them off. Alicia argues that email can be used to share information about personal experiences if someone who lives in an isolated area is having a unique experience. She says “you might be able to connect with other people in other communities or somewhere else in the world that you know is having the same experience as you.” She maintains that the “Internet is your opportunity to access almost anybody in the world.” Similarly, Lisa says that she is setting up a mailing list so that education students can share their experiences during their teaching *practica*.

For a few of the women, email has the potential to make the sender of a message more comfortable and the receiver happier. Elizabeth maintains that the Internet has

changed the way she communicates because now she emails people rather than phoning them. Lisa argues, "I don't like the phone, I like face-to-face communication and I use email. I think it is great to just whip off a quick little note to somebody." As well, a few of the women expressed that they like email because it does not "interrupt" the receiver of the message. Lisa says, "I love email because you're not bothering people. I don't want to bother people." Jane agrees, saying, "it's good at work because if you need to get in contact with someone and if their voicemail on their phone is full usually their email will be open. You're not interrupting anything when you're sending email because it's not ringing or anything." Erica maintains that email has allowed her to keep in contact with people that she would not have "other ways." "I really enjoy that," she says.

4.8 Summary

This chapter captures the participants' perspectives of their online experiences. They describe their access to technology in terms of connection, isolation and balance. The interviewees discuss their quality of access that includes the external factors of location, usability and support and internal factors of user image and attitudes towards technology. The women all view the Internet in an informational context and value its networks for exchanging knowledge through email and mailing lists. Although the women tend to see the Internet as a source of information they describe several instances of online informal learning. These examples show how women can use cyberspace to readily access information that will enrich several areas of their lives. The next chapter will explore the women's words from the researcher's viewpoint and link their answers to the relevant literature.

5. Analysis and Discussion

There are three objectives of this study. The first is to investigate women's attitudes toward the Internet as an informal educational tool. The second objective is to describe the ways in which the women use cyberspace as a place for non-formal learning. Lastly, it aims to uncover the meaningfulness of the participants' online interactions by exploring how the interpretive flexibility of technological artifacts such as the Internet allows women to appropriate technical networks for their own purposes.

The main findings demonstrate that the majority of the women in this study have a positive attitude toward the Internet as an informal educational tool. They also illustrate how the participants use cyberspace to learn about cultures, hobbies, gender roles, customs and traditions and career-related information, as well as indicating the presence of interpretive flexibility in the women's interactions with Internet technology.

The previous chapter describes the women's colloquial connections with technology and the Internet from their viewpoint. Consequently their experiences were recounted in their own words whenever possible. This chapter analyzes the interviewees' answers in an attempt to construe the meaning of the Internet in their lives. It also links the participants' portrait of their relationship with technology and cyberspace to my understanding of the three bodies of literature reviewed in the second chapter within the three categories of access, context and communication.

5.1 Interpretive Flexibility

Communication researchers explain that interpretive flexibility refers to the concept that the meaning of an object is ambiguous and therefore subject to various

interpretations and uses (Bijker, 1999; Feenberg, 1999; Kline, 1999). The interviews reveal that meaning of the participant's online experiences depends on her attitude towards access, quality of access, the context in which she views it, and the communication choices that she makes.

The meaningfulness of the Internet in the participants' lives varies according to their personal circumstances. The model in Figure 1 identifies elements that impact these women's views of their time online as influence their attitudes toward cyberspace as an informal educational tool.

Figure 1: Meaning of the Internet

For the interviewees, access to technology and the Internet holds both the promise of connection and the peril of isolation. As a result, many of the participants feel the need to achieve a balance between connection and isolation. The women's quality of access to cyberspace is determined by three main external factors that include technical support, usability of technology, and the location of access. The nature of connection is also influenced by internal factors like the woman's image of herself as a user and her attitude towards technology. The elements of attitude towards access and quality of access help to create the context in which each woman sees the Internet and determines the type of communication choices they make. The next section will explore how each woman's situation influences the way she sees the Internet.

The meaning of the Internet in Megan's life is largely shaped by her attitude towards access to technology and cyberspace. Even though she goes online at work and her parents' home for approximately five hours per week, having Internet access in her home would not be "a big deal." Perhaps this is because Megan feels that technology has become overabundant in our society. As a result, she tries to keep her use of technical networks in equilibrium with the rest of the activities in her life. Her disinterest in home access could also stem from Megan's weak user image. She tends to blame any shortcomings in her online experiences on the technology itself, rather than accepting some responsibility when things go wrong. Megan's desire for balance guides her view that technology as an additional way to get information, not something that should replace or infringe on traditional methods of communication such as reading and writing. As a result, she uses email to communicate with fellow employees at work but refuses to

use instant messaging because that is “too much.” She will look for facts on the Internet but she still prefers to go to the library and read books.

Jane does not express concern about balancing her use of the Internet. This could be because she only spends approximately one hour per day online during non-work hours. She values the Internet because it allows her to connect with her friends, family and co-workers. Jane seeks an Internet connection at Internet cafés and public libraries because she cannot afford home access right now. Although Jane used to fear technology and still has a bit of apprehension about its reliability, she is willing to engage it and learn from it. She admits when she commits errors as a user. Nonetheless, she thinks that it is important that technology have the proper support mechanisms in place. Jane thinks of going online as a skill to be learned. Therefore she tends to focus on assigning meaning to the task of finding information rather than learning from the content she finds. As a result, although she uses it to “learn” different things, she does not see her use as “educational.”

Balancing technology is not something that Elizabeth worries about. Perhaps this is due to the fact that she now only goes online when she can get access at a friend’s home or a public place. When she had access at home, Elizabeth had “fun” using the Internet everyday. Despite her lack of training, Elizabeth has managed to learn how to use the Internet just by going online. She believes technology is such a vital part of society that education on how to use it should commence at an early age. Although she sometimes experiences frustrations with technology, it is mostly because she is an “impatient person.” Elizabeth views the Internet as an important source of information that she has used both in her education and occasionally in her employment. She

maintains that cyberspace has altered her communication habits in that she prefers emailing people instead of telephoning them.

Lena strives to create a balanced use of technology in her life. This is difficult because she sits in front of a computer all day working as a software tester. Although Lena uses the Internet for “everything,” she refuses to get a computer and Internet access at home. She is able to spend all the time she wants on the Internet at work during non-work hours or she goes to her friends’ homes to go online. Lena feels very confident and comfortable using the Internet because she has a computer science degree. However, she is concerned that society is being overrun with technology and the traditional side of her wishes that things were simpler. Accordingly, while Lena appreciates connecting with information and people, she feels that technology in education should be used in moderation.

Erica does not fear that the amount of time she spends online will become excessive. Even though she has Internet access “right there” at home, Erica manages her time online. She does not fear isolation but rather speaks about how the Internet allows her to connect with friends, family and classmates. Erica feels that she is a good enough user to find her way around technology and recognizes that technology is becoming user-friendly all the time. She notes that after having used the Internet for several years, she has learned more about proper search tools and techniques. She praises technology for its potential to enhance learning in the classroom and connect people to education through distance education. For Erica, the Internet has meaning as both a potential educator and a user. As a potential educator, she sees it as a way to enhance and expand learning. As a

user, the Internet is a place that she can seek information that will help her with various areas of her life.

Jennifer only spends an hour per day on the Internet for personal reasons. As a result, she does not need to contemplate balancing her use of technology. She feels very comfortable with technology after having worked at two high-tech companies. Jennifer maintains that her only frustrations are with her entertainment technologies and her father deals with those. She values her use of the Internet at home and work because it keeps her up-to-date with what is going on in society now that she is no longer in school. While Jennifer sees the Internet as a “way to learn things,” she does not view it as educational in the formal sense. For Jennifer, the Internet is a way to educate herself without having to go to school. If she wants to get training she would probably take a course in a classroom because she enjoys the human interaction.

Julie balances her Internet use by confining her online activities to connecting with people and performing specific searches for information. She enjoys having Internet access at home because it is quiet and comfortable. Although Julie was initially intimidated by technology such as the Internet, she was willing to accept it and learn how to use it. She realizes that as a user she is often partly responsible when her computer does not work, as it should. Julie also admits that sometimes her dissatisfaction with technology arises from “expecting too much.” Julie sees the Internet as a way to connect with family, friends and information and in the future possibly education. As a result, Julie often turns to the Internet when she has a question that she needs answered.

From past experience Lisa knows that it is important to balance her use of technology. When she first discovered the Internet Lisa neglected the rest of her life in

favor of going online. Now she makes a concerted effort not to isolate herself by spending too much time in cyberspace. As a result she adheres to a regular routine and saves up specific tasks instead of going on the Internet every time she thinks of something. She claims that she has no problem learning to use technology and when frustrations do arise she can ask her boyfriend, who is a computer programmer, for help. Lisa “loves” technology and “loves” to learn. Consequently, she spends much of her time online looking for information to help with her studies and career goals. She also uses it to learn about Canadian culture, customs and traditions in other countries, and hobbies and skills. Lisa belongs to information networks that allow her to learn from other women about what it means to be “child free.” She also exchanges information and ideas with other future writers online.

While Bai values the Internet for its connection to information, she fears that technology has the potential to isolate people from each other. She does not go online often and “only” spends three to four hours per day online. Bai feels confident as a user of technology. However, when she does run into problems she can turn to her friends for help that make things less frustrating. Now that Bai no longer has Internet access at home, she feels “disconnected from the world.” She relies on cyberspace to connect with her family and friends in China and to keep up with current events in that country. Although Bai supports the notion of tele-teaching, which is the topic of her thesis, she prefers to learn in a classroom. She does not want to be “stuck” learning by herself.

Even though Rebecca attends a university that provides her with 24-hour access to the Internet in her residence room, she does not fear isolation because she is a “social person.” While some of her classmates hide behind the technology, Rebecca is not afraid

to interact with people and get to know them. Although she has access to the Internet at several different locations on campus, she prefers to use it in her room because it is quiet and comfortable. Rebecca has confidence in her ability to use Internet technology because she has been using it for the past four or five years. As well, she received technical training upon beginning her studies and since then has been part of a team to train faculty members on how to use educational technology. For Rebecca technology is “the key to the future.” She tends to view the Internet in a mostly formal educational context because that is what she uses it for everyday. However, in her spare time she also uses it to learn on her own about whatever “interests” or “amuses” her.

Personally, Alicia does not seem to be too concerned about achieving a balanced use of technology in her life. She is happy with the 10 to 12 hours that she spends online per week. She also would be willing to take a distance education course if the subject matter did not really interest her or she needed the flexibility that type of course offers. However Alicia thinks that having services on the Internet and online universities threaten the human contact that she still wants. Alicia enjoys the convenience and privacy of having the Internet in her own home. Even though she finds the Internet useful, Alicia feels that there are not good enough support mechanisms in place to help users when technical problems occur. While she can “navigate” the Internet, Alicia finds it challenging to get to reputable sites. However, she admits that sometimes she fails to be smart in book marking sites so that she can easily return to them. Alicia values the Internet as a first-stop source of information and a way to keep in touch with family, friends and fellow students.

5.2 Access

The barriers to physical access that some of the participants face are typical of those described by feminist communication researchers in previous studies (Balka, 1997; Heimrath and Goulding 2001; Osted, 2000; Pollock and Sutton 1997b, Shade, 1996; Shashaani, 1997). The cost of purchasing and maintaining the equipment is too much for some of the women to afford. Nonetheless, as research has shown, women are overcoming the digital divide by taking advantage of public access initiatives. A couple of the women mention that they use the Internet in public places such as libraries, Internet cafés and bookstore chains, thus demonstrating that they will go to “greater lengths” to access the Internet (Heimrath and Goulding, 2001). The fact that all the women in the study have accessed the Internet in at least two locations illustrates this determination. The five women who do not have Internet access at home go to a friend’s house, a parent’s house or to a public place in order to go online. This illustrates that they are willing to put effort into gaining physical access to cyberspace.

Lack of technical knowledge is another obstacle that women commonly encounter when attempting to access the Internet. Consequently, feminist researchers have called for more effective technical training and mentoring for female Internet users (Heimrath and Goulding, 2001; Li et al., 2001; Shashaani, 1997). For a few of the interviewees, simply using the Internet has helped them to learn more about it. While a few of the women argue that they do not necessarily require formal training to learn how to use technology, others maintain that having technical training makes the process less stressful. It is evident from the descriptions of their online experiences that some of the women would benefit from more training. For instance, a few of the women feel

threatened by viruses because they do not know how to deal with them. If they had more knowledge about how to protect their computers from viruses then they would be less concerned about encountering them and less frustrated when they do. Some of the participants could also use further instruction on how to find things on the Internet. While there are interviewees who expressed frustration in searching for information online, the more experienced users in the group recognize that search terms have to be very specific. The women are also aware that the type of search engine or tool that they use will make a difference in the results they gets.

This study indicates that apart from the physical barriers to access that women encounter, some of the women feel a need to manage their time online in order to balance their use of technology. Some feminist researchers would argue that this balancing act is evidence that women are concerned about getting too intimate with technology, thereby jeopardizing their ties with “the social” world. However, the amount of time that the women spend online indicates that they are not afraid to be intimate with technology. Wendy Faulkner argues that interactions with people and technology do not have to be mutually exclusive. She maintains, “most women routinely interact with people and technology; some even develop strong emotional attachments to the artifacts they use a lot, be it a washing machine or a pager” (Faulkner, 2001, p. 85). It seems that the women in this study have found ways to interact with both people and technology in a way that allows them both virtual and real connections.

5.3 Cyberspace: A Place for Informal Learning

With the exception of one participant, all of the women in the study think of the Internet in an “educational” context. Most of the women have a positive attitude towards non-formal learning online because it is cost effective and convenient. A few of the participants mention that the Internet has the advantage of providing access to informal learning which is cheaper than formal education. Alicia asserts that going online is a “cost effective” way to get information. Jane points out that reading whole books online is cheaper than buying them. Bai argues that the Internet allows people to learn without going to an institution of learning and “paying tuition.” For some of the women having Internet access at home increases their desire for informal learning. They tend to spend more time searching on the Internet for “fun” when it is right there in their homes. Home access also means that the women do not have to leave home to get knowledge. Consequently, this convenient access to information means that they might learn more because it takes a lot less effort to go online then to go to a library.

All of the women describe instances when they have used the Internet for informal educational purposes. While some of the participants openly express their appreciation of this “learning” or “education,” others claims that they value the Internet as a “source of information.” While this is a subtle distinction in description, it is a significant one. Some of the interviewees indicate that they tend to think of “education” in the more traditional sense, which includes a classroom setting with a teacher guiding them and fellow students to interact with. Perhaps they do not regard their colloquial connections with cyberspace to be “education” because they do it at home, or in a place

other than school. As a result, they label this informal education as “searching for information” or “answering questions”.

5.4 Context

This study investigates the context in which the participants view technology, specifically the Internet, and explores cyberspace as a potential space for providing a multiplicity of contexts for informal learning. An examination of contexts that participants assigned to cyberspace revealed the power of interpretive flexibility and the importance of the “gender-technology relation”(Grint and Gill, 1995). In recent years there have been numerous studies that explore how women have appropriated seemingly male technical networks like the Internet for political purposes (Shade, 1996; McCully and Patterson, 1996; Pollock and Sutton 1997a; Escobar, 1999; Harcourt, 1999). The majority of the eleven women in this study do not view the Internet in a political context. Instead, the participants see it in terms of information, education and entertainment.

To understand how the context of the Internet affects the way these women feel about it and interact with it, one must look at the participant’s “gender-technology relation.” Communication researchers have conducted several studies about the tenuous relationship between women and technology. The participants in this study express varying degrees of comfort with their Internet usage. Even though the women have concerns about technical breakdowns and frustrations with Internet searching, most of their uneasiness with technology comes from trying to achieve a balanced use of technology in their lives. This affects the way some of the interviewees perceive the Internet. Those women who want to limit their connections to cyberspace may also wish

to downplay the significance of their interactions with technology to keep that relationship in perspective. This may account for the tendency of the participants to identify their instances of informal learning in an “informational” context instead of an “educational” context. For some of the interviewees “education” conjures up images of the traditional classroom guided by a teacher.

Some feminist researchers have argued that a hostile, male dominated cyberspace affects the context in which women view the Internet (Camp, 1996; Cockburn, 1999; Millar, 1996; Pollock and Sutton, 1997b; Spender, 1995). While some of the women did not have a positive perception of the Internet, they did not overtly blame images of cyberspace as a hostile male-dominated culture for their attitudes. Instead they argue that the negative aspects of the Internet include its potential to isolate people, viruses and uncertainty about the validity and reliability of online information. Although a couple of women did mention pornography as a negative aspect of the Internet, it did not deter them from going online for several hours a week. Nonetheless there is one subtle indication that these participants may be affected by the supposedly male Internet culture. The majority of the interviewees stays out of chat rooms or remain silent on mailing lists in an effort to be “safe.” This issue will be discussed further in the section about communication.

This study shows that not only do women go online in a variety of physical environments but cyberspace itself provides numerous virtual communities and contexts. Feminist education theorist Elisabeth Hayes argues that

Women’s learning takes place in a wide variety of social contexts: in community groups, in the home, in the workplace, in religious associations, in leisure activities, and in more formal educational settings – in literally every context of life” (Hayes and Flannery, 2000, p. 23).

Consequently, the sheer number of contexts that the Internet provides means that women who go online have more opportunities for informal learning. Feminist researchers maintain that in many instances, women's experiences of informal learning challenge those of formal learning.

The women access the Internet at home, at work, at their friends' and parents' homes and in public places. Each of these sites impact on the interviewees' online interactions. For instance, the women describe how having access to the Internet at home gives them a quiet and comfortable place to go online that is free from distractions. Consequently it could be argued that this setting is more conducive to learning that requires intense concentration or involvement. Some of the women discuss how having access to cyberspace at work enables them to learn more about their position or the company they work for. Others use the Internet to get information that is pertinent to achieving success in their employment. Rather than having to ask another employee for help, they can find and use information on the Internet in order to independently deal with challenges that may arise in their jobs. A couple of the women benefit from surfing with their friends because they can learn about new web sites from them. Although some of the women have used the Internet in their formal education, most of their experiences have been limited. The majority of their time in cyberspace has not occurred in a formal educational setting.

The women in this study identified how cyberspace communities taking the form of mailing lists and other online forums allow them to share and exchange information with other people. They form discussion groups about hobbies and leisure activities,

their employment, their field of study or other information that aids them in their everyday lives.

All of the women discuss how they use the Internet to learn information that is relevant to them. For example, the interviewees who enter cyberspace to learn about various cultures tend to do so because it is pertinent to their own lives. Many of the participants who go online to learn about other cultures do so in the context of traveling to another country or to understand international current events. This supports Daniel Cerezuelle's argument that informal education creates a connection between learning and "concrete" life (1998, p. 310). As a result, the women are inclined to go online to learn about a culture if they are going to come into contact with it or if it will help them to better understand events that are going on in their own corner of the world.

The Internet increases women's access to informal learning due to the convenience of looking online and the diversity of information available. Many of the participants express that they turn to the Internet first because it is convenient and they can find whatever they want. This type of access to knowledge and learning is a stark contrast to women's access to formal education. Research has shown that many women experience barriers in accessing formal education such as the time and place of the courses and the high cost of tuition (CCLOW, 1997, Hayes and Flannery, 2000; York Stories Collective, 2000). In addition these studies demonstrate that female students have difficulty finding courses that interest them. Informal online learning can help women to overcome these barriers.

Although the data from the interviews indicates that there are similarities in the participants' experiences of formal and informal learning on the Internet, there are also

definite differences. The women's experiences in cyberspace illustrate that their basic skill level and their attitude toward technology will impact on their learning in both formal and informal educational settings. However, their descriptions of their Internet use in formal education indicate that some of the participants feel it was something that was imposed on them. Conversely, the women express their desire to freely engage with the Internet in informal settings. They describe how they look up information for "fun" and think of searching for knowledge online as a form of entertainment.

5.5 Communication

Despite using the Internet to connect with friends, family members and co-workers, the majority of interviewees do not have a strong sense of voice in cyberspace. While some of the women take part in online information sharing networks, they are hesitant to express their identity online. Instead they keep a low profile in an attempt to avoid unwanted harassment from other users. While none of the participants have personally experience violence or intimidation in cyberspace, many feel the need to avoid chat rooms, which they regard as potentially dangerous. The interviewees do not seem to feel oppressed by their lack of voice on the Internet. Rather they view themselves as "smart" to avoid possibly unsafe online situations.

5.6 Summary

The variety of views and values reflected in the answers of the eleven women interviewed exposes the complexity involved in attempting to understand the participants' attitudes toward the Internet as a potential informal educational tool. While all of the

women cite instances of non-formal learning on the Internet, the meaningfulness of these interactions is unique to each woman. It seems that the individualized lenses through which the interviewees see the world determines how the women characterize their activities in cyberspace and will shape their attitudes toward it as a place for informal learning.

6. Conclusion

This study investigated the attitudes of eleven female Internet users living in Ontario towards cyberspace as a potential place for informal learning. The women, Alicia, Bai, Jane, Julie, Jennifer, Rebecca, Lena, Lisa, Erica, Megan and Elizabeth illustrate that technical artifacts can mean different things to different people. They describe a multiplicity of ways that the Internet can be used for non-formal education including learning hobbies, skills, customs, traditions, gender roles and career information.

Even though each woman's online experience is unique and their informal educational experiences are varied, the meaning of access, quality of access, context and communication emerge as elements that exhibit the women's attitudes towards the Internet as a possible tool for non-formal learning. The components that come together to help form these women's attitudes towards the Internet as an informal educational tool and the meaning of it in their lives are depicted by a model (Figure 1).

6.1 Contributions and Limitations of the Study

This study brings contributions to the fields of mass communication and feminist studies of technology and education. Nonetheless, there are also limitations of the study caused by the nature of the research process. This study contributes to feminist studies of technology by adding another dimension to the campaign for Internet access for women and by creating a portrayal of the female user that goes beyond the depiction of women as either the experts or victims of technology. It provides yet another example of the

importance of informal learning in women's lives and identifies themes and categories that can be used by future communication researchers.

Exploring women's use of the Internet for informal education creates another side to the debate over women's need have access to cyberspace technology. While feminist activists have appropriated networks for political purposes and have documented this example of interpretive flexibility, there has been a lack of theorizing about how other women without these political affiliations are using the Internet. This thesis points out that there are women who are appropriating technical networks in order to learn on their own. It illustrates that prior representations of women do not capture the complexity of female users. The data reveals that the majority of the women are self-aware users who recognize their strengths and weaknesses when dealing with technology. Some of the interviewees also negotiate their use of technology to create balance in their lives.

This investigation advances feminist theories of education by citing instances of how women learn in a variety of settings and contexts. It supports the notion that informal education can provide women with opportunities to learn beyond the classroom and to challenge previous experience from their formal education. A model that identifies the elements, which help to shape women's attitudes towards the Internet as an informal educational tool, emerged from this thesis. This pattern serves as a starting point for communication researchers who wish to investigate further the "meaningfulness" of the Internet in women's lives and explore the ways they use cyberspace for non-formal learning.

This study has three main limitations. First, the use of a purposive sample means that this thesis does not yield generalizable results. Some participants had difficulty

remembering specific examples of their online experience. Consequently, the depth and richness of their answers were limited. Finally, the role of the researcher as interviewer poses threats to the internal validity of the study.

6.2 Generalizability

Communication researchers maintain that one of the limitations of communications studies tends to be lack of generalizability, which refers to “findings from a particular research study that can be generalized to other people and situations” (Frey et al., 1991, p. 325). Due to a lack of research into women’s attitudes towards the Internet as an informal educational tool, the goal of the research design was to gain understanding into these issues. Consequently, a small purposive sample was used in order to uncover the meaningfulness of the Internet in the lives of women. The age of the women and their required interaction with the Internet for five hours a week meant that they were more inclined to feel positively with technology. Therefore, these results cannot be applied to any other group of female Internet users.

The age range of the women in the study was between 18 and 35. This means that most of the participants have had the opportunity to use technology, such as computers and the Internet, in their secondary or post secondary education. As a result, they have had experiences and in some cases training with this technology that women in older generations may not have had. Consequently, they may be more willing and better able to engage with technology than women in their forties or older. The age range also meant that half of the women were still pursuing their post secondary education and therefore tended to think of using the Internet in terms of education.

The restriction of this study to women who use the Internet for at least five hours per week means that the women are willing to engage with technology on a regular basis. Accordingly, if they make this type of time commitment to using technology, they might benefit from it in some way and thus feel it has some positive attributes.

The regular use of the Internet by the eleven women in the study shows that perhaps this particular group of women tends to feel more positively towards the Internet because they desire a connection to it and achieve benefits for doing so. Thus, these results are not applicable to all female Internet users. This study is intended to explore the personal experiences of these women and the meaning of their use of the Internet for informal educational purposes.

6.3 Remembering Specific Examples

The questions in the third section of the interview required the women to reflect on their experiences with the Internet and give specific examples regarding their activities in cyberspace. Some of the women had a bit of difficulty remembering particular instances when they used the Internet to learn about a variety of things. A few women commented that they knew they had used the Internet for those types of things but could not think of specific examples. Perhaps it would have been beneficial if the participants had been asked to keep a journal of their online activities for a few weeks so that they could have more readily remembered their interactions with the Internet. As well, conducting a focus group with the participants might have helped the women to remember instances when they have used the Internet for informal education. In a focus

group situation sometimes something that one of the participants says helps the other participants to think of similar situations.

6.4 Researcher's Knowledge

My prior knowledge of the research already conducted in this field, coupled with my own experiences and technical knowledge, influenced the development of the interview guide and the data analysis. My understanding of the literature helped me to make linkages between the women's descriptions of their experiences and concepts from the relevant bodies of literature. For example, none of the women discussed the notion of "informal education." However they did describe going online to answer questions, "learning" from information on the Internet, and searching to find out whatever they wanted to know. My awareness of the notion of informal education from other researchers' work allowed me to link it to what the women were describing. As well, my personal experiences and technical knowledge of the Internet allowed me to evaluate the comprehension of the participants regarding the usability of the technology and in some instances identify the need for more training. For example, through my own experiences and knowledge I am aware that there are virus-scanning programs that can protect a user's computer. However, some of the women in the study seemed to be unaware that there are such programs available, making viruses seem unstoppable.

6.5 Internal Validity

Internal validity "concerns the accuracy of the conclusions drawn from a research study." It explores whether an investigation is "designed and conducted so that it leads to

accurate findings” (Frey et al., 1991, p. 118). I tried to increase the internal validity through decisions about methodology. According to Frey et al., “qualitative measures generally increase validity by providing more depth of information about what is being studied than most quantitative measures.” (ibid., p. 124). They also point out that non-directive interviews, such as the ones conducted in this study, “tend to generate more valid data” because “interviewers can ask probing follow up questions” (ibid., p. 124).

One of the threats to internal validity that I made an effort to reduce involved the data analysis process. I keep a reflective journal throughout the data collection and analysis that contains my thoughts and ideas about the women’s descriptions of their experiences. I also wrote field notes about my conversations with the participants before, during and after the interviews. These two sources served to remind me of the context in which the interviews took place and help me to be aware of the impact of my own attitudes and values on analyzing the data.

6.6 Recommendations

Two main recommendations emerge from this study based on the words of the eleven female Internet users. This thesis suggests that there be a shift in public policy regarding Internet access. It proposes a move away from public access initiatives in favor of a campaign for Internet access in the home. It also recommends that communication researchers further investigate the “meaningfulness” of cyberspace in women’s lives.

This study adds yet another appeal for women to have Internet access at home. The participants prefer go online at home because it is convenient, comfortable, quiet and

free from distractions. This provides an appropriate environment for women to learn how to use the technology itself and learn from the content online. Some of the women even mention that the Internet is a more cost-effective way to gain an education.

There is a need for communication researchers to pursue in-depth explorations of women's use of the Internet and other technology in order to present more complex images of women as users of technical networks. More must be done to examine the attitudes and decision-making processes that lie beneath the surface of women's use of technology.

6.7 Suggestions for Future Research

This study lays a foundation for understanding the meaning of the Internet in women's lives and its potential for informal learning. One of the limitations of this study is that participants had some difficulties remembering specific instances when they had used the Internet. Therefore, future studies might be more effective if the participants kept a journal of their online activities for a few weeks in order to get them thinking about how they use it and to have a record in case they forget.

A few of the participants maintain that over time they have become more comfortable using technology. Longitudinal research could trace the evolution of each woman's in order to see how attitudes and uses change over time. Consequently it could provide a greater understanding of the decisions that women make with regards to the use of technical networks.

This study only examined women's attitude towards the use of the Internet for informal learning. Future research should investigate men's use of cyberspace for

informal education in an attempt to identify issues not recognized in this study as gender specific. Examining the meaning the of the Internet in men's lives may give researchers insight into whether the issues raised in this study are unique to women's informal online learning.

The purposive sample limited the diversity of women in this study. Although there were three women of different ethnic backgrounds, all the women shared similar educational and economic backgrounds. These circumstances enabled them to gain access to the Internet. Future research should focus on the meaningfulness of the Internet in the lives of women who not have the resources or the knowledge to gain access to cyberspace.

6.8 Summary

This thesis demonstrates that these participants who engage with technology and the Internet see the potential of cyberspace to be a space for informal learning. Although they tend to characterize the Internet as "informational," they share several examples of going online to "learn." The Internet provides the interviewees with knowledge they can use to learn about customs and traditions, cultures across the globe, hobbies and skills and careers. The degrees to which the women value these colloquial connections to education depend on the meaning of the Internet in their lives. This meaningfulness relies on four elements: their attitude toward access, their quality of access, the context in which they view it and the communication choices they make. Consequently, the meaning of cyberspace for these participants adheres to their personal circumstances and the lenses through which they view the world. Nevertheless, it is important to note that

these lenses are not necessarily representative of the visions of women everywhere. This study shows how a very select group of eleven women from Ontario, who access the cyberspace for five hours or more per week, attach meaning to their online experiences. If there is difference in the meaningfulness of the Internet in the lives of women with similar backgrounds, researchers will surely find divergence among women from diverse backgrounds.

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Appendix A: Informed Consent Form

I agree to participate in a study being conducted by Carletta Shannon of the Mass

Communication Program, Carleton University under the supervision of Professor Karim.

I have made this decision based on the information I have read in the Information-

Consent Letter and

- I agree to be interviewed for approximately an hour by the researcher
- I will/will not (circle one) allow the researcher to tape-record the interview
- I understand that there are minimal emotional/psychological risks to participating in this study in that if I have experienced fear or violence in cyberspace this interview may bring up unpleasant issues or memories
- I understand that I have the right to refuse to answer any questions that may arise during the interview
- If I withdraw from the study I will/will not (circle one) allow Carletta Shannon to use the information collected to that point
- My identity will remain anonymous and the researcher has agreed to guarantee confidentiality by keeping the information collected from the interview in a locked filing cabinet in her home and she will be the only person who has a key to this filing cabinet
- I also understand that this project has been reviewed by, and received ethics clearance from the Office of Research Services at Carleton University, and that I may contact this office if I have any questions or concerns about my involvement in this study.

Name: _____ Witness Signature: _____

Signature: _____ Date: _____

Appendix B: Information Letter for Interview Study

Carleton University

Date

Dear (Participant's Name):

This letter is an invitation to consider participating in a study I am conducting as part of my Master's degree in the Mass Communication Program at Carleton University under the supervision of Professor Karim Karim. I would like to provide you with more information about this project and what your involvement would entail.

In the last three years, women in various parts of the world have challenged the digital divide. More women are going online and depending on their geographic location women are either catching up to their male counterparts or are surpassing them with regards to Internet use. The statistics suggest that women engage in a variety of online activities such as banking, shopping, communicating, and "surfing" for information. The purpose of my study, therefore, is to gain insight into women's attitudes about the reality and potential of the Internet as a place for informal education. By informal education, I mean learning that takes place in a setting not specifically designated for education such as the home or the community.

Currently little research focuses on how women feel about learning in cyberspace and what may motivate them to use or not use the Internet as an informal educational tool. With women groups taking up campaigns to fight for women's right to equal Internet access, it is important to understand how and why women are using or are not using such technology in their daily lives. Given this, I would like you to be involved in my study. I believe that because you are a woman between the ages of 20 and 40, who uses the Internet more than 5 hours per week at home, at work during non-work hours, or in a public place, you are best suited to speak about various issues. These include your feelings toward technology, your thoughts on the compatibility of education and technology and your personal perceptions about and your experiences with the Internet. Participation in this study is voluntary. It will involve an interview of approximately 60 minutes in length to take place in a mutually agreed upon location.

You may decline to answer any of the interview questions if you so wish. Further, you may decide to withdraw from this study at any time by advising the researcher. The interview will be tape-recorded with your permission, and later transcribed for analysis. Shortly after the interview has been completed, I will send you a copy of the transcript to give you an opportunity to confirm the accuracy of our conversation and to add or clarify any points that you wish. All information you provide is considered completely confidential. Data collected during this study will be retained for one year in a locked filing cabinet in the researcher's home to which only she will have the key. There are minimal emotional/psychological risks to participating in this study. Some women have experienced violence and felt fear when participating in cyberspace. If this is your experience, the interview may bring up unpleasant issues or memories. However, I want to remind you that you have the option of passing on any

question during the interview process or withdrawing from the study at any time without penalty.

If you have any questions regarding this study or would like additional information to assist you in reaching a decision about participation, please contact me at 613-xxx-xxxx or by email at cshannon@chat.carleton.ca. This project has been reviewed by, and received ethics clearance from the Office of Research Services at Carleton University. If you have any questions or concerns resulting from your participation in this study, please contact Professor Klaus Pohle at 520-2600 ext. 7434.

I hope that the results of my study will be of benefit to those women directly involved in the study, other female Internet users not directly involved in the study, as well as to the broader research community.

I very much look forward to speaking with you and thank you for your assistance in this project.

Yours Sincerely,

Carletta Shannon

Appendix C: Interview Guide

Before we begin I need to ask your permission to tape record this interview.

The interview will be approximately one hour in length, however this could vary depending on the length of your answers. If you have any questions before, during or after the interview please do not hesitate to ask me. If there are any questions that you do not want to answer simply say "Pass" and I will move onto the next question.

1. **Tell me a bit about yourself –**

Probes:

How old are you?

What do you do?

What are your hobbies and past-times?

What are your goals?

Attitudes about technology

2. **How do you feel about technology?**

Probes:

When I say the word technology, what emotions do you experience?

Are they good emotions/bad emotion? Can you describe them?

If I were to say that you have to use technology to complete a project for school or at work, how would you feel?

3. **What technologies do you use in your daily life?**

Probes:

Do you have technologies that you use in the kitchen?

What are they?

Do you have technologies that you use for entertainment?

What are they?

Do you have technologies that you use at work or at school?

What are they?

Think of your typical day - from the time you get up in the morning till the time you go to bed what are the technologies that you would use?

4. **Would you characterize your relationship with technology as positive or negative?**

Probes:

Can you give me some examples of how your relationship with technology has been either positive or negative?

What have been your either positive or negative experiences with technology...or both?

So who do you think is at fault in the relationship? Is it you or the technology?

5. If you could, what would you change about the technology that you use?

Probes:

What problems occur when you use the technologies mentioned earlier?

Do you think that these problems are fixable?

If you had access to the people that design for instance – computer technology... what would you suggest they improve?

Attitudes about the compatibility of education and technology

5. How do you feel about the move towards using technology in formal education. E.g. laptops in schools, online courses, and distance education?

Probes:

Do you think that is a good move or a bad move?

What are the benefits and drawbacks?

Do you see any potential problems or potential improvements?

6. Have you ever taken an online course or some form of distance education or know of someone who has. Describe your/or their experience.

Probes:

What were the positive and negative aspects of this experience?

7. Given the opportunity, would you take an online course or join an educational program that primarily requires the use of computers or some other form of technology?

Probes:

What would be the pros and cons of this choice?

What do you think would be the advantages or disadvantages of taking this kind of course?

8. What are some educational technologies that you are aware of?

Probes:

Just think of any technologies that are used in a classroom whether it is a university classroom, a high school classroom, junior high, elementary of various subjects.

9. Which of those technologies that you are aware of do you think are helpful to education?

Probes

Are there any technologies you think are harmful to education or make teaching students more difficult?

10. What has been your experience with the Internet in formal education?

Probes:

Have professors assigned projects or assignments that require the use of the Internet?

In your opinion, is there useful information on the Internet to learn or would the content or structure of the medium have to change before it could be used for educational purposes?

Attitudes about Internet usage

11. How often do you use the Internet?

Probes:

In what locations do you use the Internet?

Where of those do you prefer to use the Internet and why?

Approximately how long do you stay online?

Do you wish you had more time to be online? If so why? If not, why?

Would you like to have access at home? Why don't you have access at home?

Are you concerned about your safety when you are on the Internet? What steps do you take to keep yourself safe.

Are you concerned about privacy issues when you are on the Internet? What steps do you take to protect your privacy on the Internet?

Do you find the Internet easy to use? What are the challenges of using the Internet?

12. When you think of the Internet what comes to mind?

Probes:

What images or words pop into your head?

How would you describe it to someone that doesn't know what it is?

What context do you think of it in?

Do you think of entertainment?

Do you think of education?

Do you think of politics?

Do you think of it as a medium for information?

Why?

13. Tell me what you feel are the positive and negative aspects of this medium?

14. When you go online what is usually your purpose?

15. Are there any activities that you used to do offline that you now do online?

Probes:

Why do you choose to do these activities online?

16. Do you spend time "surfing" the Net for information?

Probes:

What types of information do you look for?

Have you been successful in finding information that you are looking for?

What you think are the advantages and disadvantages of looking for information on the Internet?

What types of information would you like to see added to the Internet if it is not already there?

17. Describe how information on the Internet has helped you in your role as:
(whatever is applicable to the participant)

- a) a mother
- b) homemaker
- c) student
- d) employer
- e) citizen in your community

18. Do you use the Internet to communicate?

Probes:

Do you use email?

Are you on mailing lists?

Do you go into chat rooms?

Do you use Internet communication for educational purposes eg. Communicating with professors and students or sharing information? What kind of information did you share?

19. What types of Internet content have you encountered that you would consider educational?

Probes:

Have you used information on Internet to learn a hobby?

Have you used the Internet to learn a particular skill?

Have you used the Internet learn about other cultures?

Have you used the Internet to learn about customs or traditions?

Have you ever used the Internet to answer a question?