VIOLET:
Learning on the Net

Final Report to the
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Written by:
San San Sy
Kathleen Anderson

Legal Studies Program
Faculty of Extension
University of Alberta

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Acknowledgments

VIOLET is truly a collaborative venture in its development by women in Canadian communities and in continuing education. Its collaborative nature is also evident in the sources of financial support. We express gratitude to the Office of Learning Technologies for Phase II of the project. Their funding enabled us to not only enrich the first web site, but also to re-design it and use it to explore how women in a non-formal environment use Web technology to learn. To the Status of Women Canada, we extend our thanks for having the foresight to fund Phase I of VIOLET and to continue to support the subsequent development of VIOLET. To the Alberta Law Foundation, we offer thanks for their support of the infrastructure of the Legal Studies Program, Faculty of Extension, University of Alberta, which made it possible for us to seek other funding for this project. We thank the Muttart Foundation for assisting us to improve Internet access by providing an Internet station for each member of the Alberta Council of Women's Shelters.

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There have been many players on the project team and all have contributed much to the success of the web site and its continuing development. Thank you to the following dedicated team members: Dr. Katy Campbell, advisor and external evaluator; Lynn Parish, lawyer; Dory Baxter, Web technologist; Margaret Sadler, editor; and Livia Stoyke, web visual designer. We extend a special thank you to Shannon Thomas who spent many hours building and converting the content into Web format. Without her, the web site would not have been ready.

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VIOLET: LEARNING ON THE NET

Rapport final – Bureau des technologies d'apprentissage

Décembre 1999

RÉSUMÉ

LES RENSEIGNEMENTS GÉNÉRAUX

Le Legal Studies Program a conçu le projet VIOLET: Learning on the Net (l'apprentissage au moyen d'Internet), qui a été financé par le Bureau des technologies d'apprentissage. Ce projet avait pour but de mieux comprendre comment un groupe de femmes particulier se familiarise avec la loi au moyen du Web. VIOLET: Learning on the Net représentait la deuxième étape du projet VIOLET. Il a été mené à bien à l'aide du site Web mis au point à la première étape du projet. L'équipe du projet a travaillé de concert avec des femmes abusées et leurs fournisseurs de services afin d'observer la façon dont ces femmes apprennent. Les constatations ont découlé de deux stratégies de recherche : l'étude qualitative d'un petit groupe, et une évaluation externe ayant fait appel à l'analyse de spécialistes et à un test d'utilisation.

Le rapport intégral fait état de la conception et de la mise au point du site Web ainsi que des leçons apprises pendant la formation et l'observation des femmes utilisant le site Web. La conception du site Web intègre la théorie d'apprentissage constructiviste, la théorie d'apprentissage sur site Web, la façon de savoir des femmes et la théorie d'apprentissage des adultes. Des commentaires sont formulés sur les stratégies dont les femmes évoluant dans des milieux d'apprentissage informels ont besoin lorsqu'elles recherchent de l'information à l'aide du Web. Cela s'ajoute aux nombreux documents qui existent déjà relativement à l'utilisation du Web, en mettant l'accent sur ses qualités d'apprentissage uniques dans un milieu non formel.

VIOLET: Law and Abused Women (www.violetnet.org) est un projet effectué en collaboration entre le monde universitaire et le monde communautaire. Il permet aux femmes abusées et à leurs fournisseurs de services de faire de l'apprentissage en ligne. Bien que l'accent ait été placé sur la mise au point et sur l'usage du site, nous avons accordé une attention particulière au développement de la capacité Internet des maisons de refuge pour femmes. Grâce à ce projet, des fonds ont été obtenus pour que chaque maison de refuge membre de l'Alberta Council of Women's Shelters se dote d'un poste Internet.

LA DESCRIPTION DU SITE WEB

Le site prend la forme d'un endroit sécuritaire et convivial pour les femmes qui sont à la recherche d'information juridique importante relativement à des relations abusives. Il intègre les principes de l'apprentissage des adultes et une conception Web favorisant le développement de l'estime de soi. Le site est rédigé dans une langue ordinaire. Il présente trois méthodes d'apprentissage différentes. Pour chaque méthode, les femmes peuvent édifier et acquérir des connaissances sur les aspects juridiques qui se rapportent à leur situation. Le site comprend des composantes interactives afin que les femmes puissent prendre leur apprentissage en mains et, au bout du compte, reconnaître leurs forces et leurs habiletés personnelles.

Voici les trois méthodes d'apprentissage préconisées :

?   **Just the Facts (s'en tenir aux faits)** — les renseignements juridiques sont présentés sous un genre de table des matières;

?   **Mary's Story (le récit de Mary)** — les mêmes renseignements sont trouvés en lisant le récit d'une femme abusée; et

?   **It's Your Story (c'est votre récit)** — cette méthode interactive renferme le même contenu, mais elle permet à la lectrice de jouer le rôle de fournisseur de services ou de femme abusée, puis d'acquérir ses propres connaissances.

La section **Just the Facts** fait appel à une méthode d'information procédurale. Elle présente les faits juridiques un peu comme on les trouverait dans un manuel. Cette méthode est très didactique et parfois même, séquentielle. Le contenu est présenté un peu comme dans une encyclopédie, en fonction des sujets et non pas des étapes d'un processus de résolution des problèmes. Dans le cadre de cette méthode, nous présumons que l'usager sait de ce dont elle a besoin et qu'elle connaît déjà la terminologie de base. L'information est organisée selon de grandes sections générales, comme l'abus, le recours à la police, les procès, et ainsi de suite. Pour bénéficier de cette méthode, l'usager doit avoir une compréhension de base de l'abus par un conjoint. Cette section peut permettre à l'usager de confirmer ce qu'elle sait déjà ou de trouver matière à réflexion. Nous présumons que les femmes qui connaissent bien les enjeux ou qui n'ont pas de temps à consacrer aux modes interactifs recourront à cette méthode pour faire des consultations rapides.

La section **Mary's Story** est basée sur un cas. Elle amène les lectrices à découvrir l'information juridique grâce au récit d'une femme abusée. Les concepteurs espèrent que cette section pourra aider les usagers à établir des liens avec leur propre expérience et à apprendre des renseignements juridiques pertinents au fur et à mesure qu'elles lisent. Le récit est truffé de liens qui permettent d'obtenir de l'information complémentaire. Les usagers peuvent décider de consulter ces liens au fil de leur lecture. Tous les liens sont placés dans une interface narrative qui leur est familière. Les usagers décident à quel

moment elles iront consulter un lien juridique et à quel moment elles reviendront au récit de Mary. La structure du site est évidente et facilement accessible.

À l'aide d'une méthode cognitive localisée, la section **It's Your Story** prend la forme d'un apprentissage interactif sur le Web. Les usagers ont la liberté de choisir un rôle pour se familiariser avec la loi dans le cadre d'une situation fictive. Ce faisant, elles entrent en interaction avec l'information en répondant à des questions et en comparant leurs réponses avec les réponses du site. Cette méthode favorise la réflexion et cherche à aider les femmes abusées à s'affirmer.

LES USAGERS DU SITE WEB

VIOLET est conçu pour un environnement non formel. En soi, une présence sur le Web constitue un défi, car les concepteurs n'ont aucun moyen de savoir qui utilisera le site. L'équipe de conception peut tenter de déterminer qui aura accès au site en fonction de la façon dont il est promu et auprès de qui. Elle peut aussi compiler des statistiques d'usage général et demander de la rétroaction en ligne. Cependant, en réalité, l'équipe ne sait pas exactement qui se sert du site. Elle ne peut qu'en déduire que ce sont les femmes qui s'en servent et que lorsque les statistiques d'utilisation augmentent, que les femmes y accèdent.

Tout comme la réalité d'une femme abusée évolue avec le temps, il en est de même de sa perception et de son état de préparation à prendre une décision. Il se peut qu'elle réagisse différemment à une certaine méthode chaque fois qu'elle y a accès, selon sa situation à ce moment-là.

- **Just the Facts** présente des renseignements généraux sur l'abus par un conjoint et donne des options valables sur le plan juridique. Cette section énonce également diverses questions que les femmes doivent considérer une fois qu'elles ont décidé de prendre des mesures juridiques. L'information n'est pas organisée en ordre alphabétique, mais plutôt en grandes catégories.

- La section **Mary's Story** devrait servir de catalyseur pour que les femmes aillent chercher plus d'information afin de pouvoir prendre des décisions, sur-le-champ ou plus tard.

- Grâce à la section **It's Your Story**, les usagers sont en mesure de diriger leur propre démarche grâce à un scénario choisi. Au besoin, elles doivent prendre les mesures qui s'imposent. Cette méthode fait appel à une participation active et apparente. Pour l'usager, c'est probablement la méthode qui demande le plus de temps. Par contre, du point de vue de l'instructeur qui s'y connaît bien en formation formelle, cette méthode est peut-être la plus efficace.

La plupart des femmes interrogées voyaient d'un bon œil le fait d'avoir trois choix de méthodes différentes pour accéder à l'information. Selon elles, chaque méthode a ses mérites et ses propres usages.

LES RÉSULTATS ESCOMPTÉS, LES CONSTATATIONS ET LA CONCLUSION

Les résultats escomptés du projet VIOLET: Learning on the Net fournissent un cadre de référence pour la synthèse des constatations du projet et pour son évaluation externe.

- ? Créer un service d'apprentissage sur Internet afin de venir en aide aux femmes abusées, à leurs fournisseurs de services et à leurs sympathisants.

- ? Fournir des occasions d'apprentissage concernant l'information juridique pertinente.

- ? Créer une communauté en ligne offrant du soutien, de l'échange d'informations et le partage d'expériences.

- ? Sensibiliser les gens au fait que l'économie et la société sont davantage axées sur les connaissances.

- ? Initier et familiariser les femmes à la technologie Internet.

L'étude qualitative du groupe et l'évaluation externe ont permis d'en arriver à la même conclusion : les résultats escomptés du projet ont été atteints. Même si de petites modifications s'imposent, l'équipe du projet est satisfaite en ce sens que le site Web actuel représente un point de départ important. Il pourra bénéficier des améliorations qui y seront apportées, mais dans l'ensemble, la rétroaction des participantes a été très favorable. En plus de ces commentaires positifs, VIOLET a reçu le prix d'excellence des programmes décerné par l'Association pour l'éducation permanente dans les universités du Canada (AEPUC) en 1999.

Notre étude nous a permis de constater que les femmes abordent peut-être l'apprentissage d'une manière différente, soit d'une manière qui favorise la collaboration, utilise l'information qui est pertinente à leur vie et qui leur donne l'occasion de réfléchir. En raison de divers facteurs attribuables à la société, les femmes n'ont généralement pas le temps de se servir de l'ordinateur pour s'amuser. Pour elles, l'ordinateur est plutôt un outil. Au début, l'ordinateur intimidait les femmes, d'où la nécessité de considérer de quelle manière les outils d'apprentissage technologiques doivent leur être présentés.

Au fur et à mesure que la technologie devient de plus en plus prépondérante et que de plus en plus de femmes ont accès à un ordinateur, les enseignants aux adultes doivent se concentrer sur les besoins de l'apprenant en milieu non formel. Un grand nombre des participantes interrogées, soit des clientes et des travailleuses, savaient très peu se servir d'un ordinateur. Par conséquent, au début, elles craignaient VIOLET, mais au bout du compte, elles se sentaient habilitées. Dorénavant, les personnes qui ont accès à Internet ont de plus grandes occasions d'apprentissage. En cette ère de l'information, l'apprentissage informel et l'apprentissage à vie continuent de jouer un rôle important dans la vie des adultes. Grâce au projet VIOLET, nous savons maintenant que notre compréhension de l'apprentissage et de l'utilisation de la technologie évoluent.

Le site constitue un outil d'enseignement et d'autoévaluation utile pour les fournisseurs de services qui doivent former du nouveau personnel ou des bénévoles. Un certain

nombre de femmes interrogées nous ont suggéré des moyens d'utiliser le site dans le cadre de discussions de groupe et de séances d'instruction. Par ailleurs, plusieurs participantes estiment également que VIOLET pourrait jouer un rôle dans les services de consultation familiale, que ce soit pour les partenaires, les enfants ou d'autres membres de la famille. Il s'agit donc là d'une orientation gratifiante à laquelle VIOLET pourrait contribuer.

Nous avons été encouragés de constater que les travailleurs des maisons de refuge ont bien voulu considérer les applications immédiates du site Web. Nous avons également été satisfaits de voir qu'une certaine femme abusée en a tiré des résultats concrets. Pendant que nous étions de montrer à des femmes abusées comment utiliser le système, une cliente s'est rendu compte qu'un certain événement de sa vie portait effectivement un nom et qu'il s'agissait d'abus. Grâce au site, elle a pu confirmer qu'elle n'aurait pas dû être assujettie à ce type de comportement et qu'elle avait eu raison de laisser la personne qui l'abusait.

LES ORIENTATIONS FUTURES

Dans l'ensemble, la conception du site accomplit le résultat escompté. Cependant, le projet VIOLET est loin d'être terminé, car cette étude ne constitue que les premiers pas. Pendant que l'équipe du projet réfléchissait sur son expérience et sur l'expérience des femmes qui ont été en contact avec VIOLET, bien d'autres questions ont été soulevées, des possibilités ont été cernées et des défis ont surgi. Dans ce rapport, nous suggérons quatre orientations particulières : un site Web pour les immigrantes (RoseNet-ca), des recherches plus approfondies, l'enrichissement de la section **It's Your Story** et le développement d'une communauté en ligne (VIOLETForum). Chacune de ces quatre orientations aura pour effet de rehausser le recours à la technologie pour les femmes dans des milieux d'apprentissage informels.

Pour obtenir de plus amples renseignements, communiquer avec :

San San Sy (sansan.sy@ualberta.ca)

Directrice associée

Legal Studies Program

Faculty of Extension

University of Alberta

4-40 University Extension Centre

112 Street and 83 Avenue

Edmonton, AB T6G 2T4

Executive Summary

Background

The Legal Studies Program developed VIOLET: Learning on the Net with funding provided by the Office of Learning Technologies. The goal was to improve our understanding of how a particular group of women learn about the law using the Web. VIOLET: Learning on the Net constituted Phase II of the VIOLET project. It built on the web site developed in Phase I. The project team worked with abused women and their service providers, observing the way that they learn. The findings came from two research strategies: a small-group qualitative study, and an external evaluation using expert analysis and usability testing.

The full report describes the design and development of the web site and the lessons learned in training and observing the women using the web site. The web design process incorporates constructivist learning theory, web-based learning theory, women's way of knowing, and adult learning theory. The project comments on the strategies that women in non-formal learning environments require when seeking information using the Web. This understanding contributes to the growing body of literature on the use of the Web, capitalizing on its unique qualities for learning in a non-formal environment.

VIOLET: Law and Abused Women (www.violetnet.org) is a collaborative academic and community venture providing on-line learning for abused women and their service providers. Although the emphasis is on development and use of the web site, developing the shelters' Internet capacity received special attention. As a result of this project, funding was achieved for each member shelter of the Alberta Council of Women's Shelters to have an Internet station.

Web Site Description

The site is a woman-friendly safe space for accessing legal information important for women in abusive relationships. It incorporates principles of adult learning and web-based designs that bolster the development of self-esteem. The site is written in plain language and offers three different learning approaches. Through each approach, women may construct and acquire knowledge about legal matters relevant to their situation. Interactive components are included in order for women to take control of their learning and ultimately to recognize their personal strengths and skills.

The three different learning approaches are

- **Just the Facts**—legal information presented in a table-of-contents fashion;

- **Mary's Story**—the same legal information discovered through the story of an abused woman; and

- **It's Your Story**—an interactive approach with the same content, allowing the reader to take the role of a service provider or an abused woman and construct her personal knowledge.

Using a procedural informational approach, **Just the Facts** presents the legal facts in textbook-like fashion. The approach is very didactic and at times sequential. The content is presented somewhat like an encyclopedia according to topics and not as steps in a problem-solving process. This approach assumes that the user knows what she needs and is familiar with the basic terminology. Information is written in broad general sections such as abuse, getting the police involved, going to court, and so on. A user requires a basic understanding of spousal abuse to benefit from this approach. She may confirm her understanding or find food for thought. We assume that those who are familiar with the issues or do not have time for interaction will use this approach as a quick reference.

Using a case-based approach, **Mary's Story** takes the reader through a discovery of legal information as told through the story of an abused woman. The developers hope that this will help the user relate the story to her own experience, learning pertinent legal issues as she reads. Throughout the story, links are provided to legal information. The user can choose to link to it as Mary encounters it. All the links are retrieved in a familiar narrative interface. The user chooses when to link to the legal content and when to come back to **Mary's Story**. The site architecture is obvious and easily accessible.

Using a situated cognition approach, **It's Your Story** uses web-based learning design interactively. The user is free to choose a role to learn about the law in a fictitious situation. During the process, she interacts with the information by answering questions and comparing her answers with the site's answers. This approach encourages reflection and seeks to assist abused women toward self-affirmation.

Web Site Users

VIOLET is designed for a non-formal environment. Being on the Web presents a challenge. The developers can not know who will be using the site. The design team can project who may access the site based on how and to whom the site is promoted. The developers can compile general usage statistics and ask for on-line feedback. In reality, however, the team does not know exactly who is accessing it. They can only infer that women are the users and when usage statistics rise, that more women are accessing it.

Just as an abused woman's reality changes over time, so does her perception and readiness to make a decision. She may find herself responding to each approach in a different way each time she meets it, depending on her current situation.

- **Just the Facts** provides background information on spousal abuse and valid legal options. It includes issues that need to be considered once the woman has decided to take legal action. It is not organized simply in alphabetical format, but groups information under general categories.

- In **Mary's Story**, we hope that the story will serve as a trigger for her to gather more information for decision making, now or later.

- **It's Your Story** puts the user in the driver's seat going through a selected scenario and taking action as required. This approach incorporates active overt participation. It is likely to be the most time-consuming approach for the user. From the perspective of an educator experienced in formal learning, this may be seen as the more effective approach.

Most of the women informants endorsed the choice of three different approaches to access information. To them, each approach has its own merits and usage.

Intended Outcomes, Findings, and Conclusions

The intended outcomes of VIOLET: Learning on the Net provide the framework for a synthesis of the findings of the project and its external evaluation.

- Develop an Internet–based learning service to support abused women, their service providers, and supporters.

- Provide learning opportunities in the area of relevant legal information.

- Develop an on-line community for support and sharing of experience and information.

- Raise awareness of an increasingly knowledge-based economy and society.

- Introduce and enable women to work with Internet technology.

The group qualitative study and the external evaluation arrived at the same conclusion—the project achieved its intended outcomes. Minor modifications are needed, but the project team is satisfied that the present web site represents a significant start. It will benefit from improvement, but the overall feedback from the participants has been very positive. In addition to this commendation, VIOLET received the 1999 Canadian Association of University Continuing Education (CAUCE) Program Award of Excellence.

Our study has shown that women may approach learning in a different way that encourages collaboration, uses information relevant to their lives, and involves opportunities for reflection. Due to various societal factors, women generally do not have the luxury of time to engage with the computer as a toy, but see it as a tool. The computer initially intimidated the women, demonstrating a need to consider how technological learning tools are introduced.

As the use of technology expands and more women are exposed to the computer, adult educators have to focus on the needs of the non-formal learner. Several of the informants, both clients and workers, were novice computer users and found the experience of working with VIOLET at first frightening and ultimately empowering. The use of the Internet is opening up learning horizons for those with access. Non-formal learning continues to be an important part of adults' lives in this age of information and life-long learning. The VIOLET project has shown us that our understanding of learning and the use of technology are evolving.

The site is a useful teaching and self-assessment tool for service providers orienting new staff or volunteers. A number of informants suggest ways in which they can use the site in group discussions and education sessions. Several participants also see a use for VIOLET in family counselling—for partners, children, and other family members. This is a gratifying direction in which VIOLET can contribute.

We were encouraged to observe shelter workers considering immediate applications for the web site. It was equally satisfying to see direct results for one abused woman. While we were training some abused women, a client realized that an event in her life had a name and that it was abusive. The site confirmed for her that she should not be subjected to this type of behaviour and that she was right in her decision to leave her abuser.

Future Directions

Overall, the site design accomplishes our intended outcome. The VIOLET project is far from complete. This study is only the beginning. As the project team reflects on its experience and the experience of the women who have been introduced to VIOLET, many more questions have been raised, possibilities have been identified, and challenges have emerged. Four particular directions are suggested in this report: a web site for immigrant women (RoseNet-ca), further research, further development of **It's Your Story**, and evolvement of an on-line community (VIOLETForum). Each of these four directions will expand the use of technology for women in non-formal learning environments.

For additional information, contact:

San San Sy (sansan.sy@ualberta.ca)
Associate Director
Legal Studies Program   4-40 University Extension Centre
Faculty of Extension   112 Street and 83 Avenue
University of Alberta   Edmonton, AB T6G 2T4

Introduction

In 1998, the Office of Learning Technologies funded VIOLET: Learning on the Net, a project of the Legal Studies Program (LSP), Faculty of Extension, University of Alberta. The purpose of the project was to explore ways that women can use Internet technology to learn about the law as it pertains to violence against women. VIOLET: Learning on the Net—being Phase II of the VIOLET project—builds and expands on the groundwork of VIOLET Phase I that included a simple web site and the building of the women's shelters' capacity to use the Internet. The intended outcome of the project is to develop a better understanding of how women who have experienced violence and their service providers and volunteers learn about the law using Internet technologies.

VIOLET stands for violence, women, and the Net. When the initial group of women was brainstorming a name, VIOLET came up as a possible acronym. As the group continued to discuss a name, the name of a flower was determined to be a good choice since the name would not be readily identified with spousal abuse. When women talk about VIOLET, it is not obvious for those not "in the know" to associate it with spousal abuse.

The goals of VIOLET: Learning on the Net are

- to demystify the Internet for women by using an appropriate learning strategy,
- to identify learning issues for women that may be unique to Internet technology,
- to research the readiness of abused women in shelters to learn about the law, and
- to develop a model that incorporates the most relevant learning strategies to introduce the Internet as a place for learning in a non-formal setting, such as shelters and offices.

With these goals in mind, the project team identified four required elements in building a non-formal digital learning environment.

- Building the infrastructure taking into consideration the need to have access to computers.
- Building the knowledge base in digital format by applying web-based learning theories.
- Training the leaders and/or service providers, community workers, and abused women.

- Gaining community support through promotions, presentation, training, and participating in other community activities in the area of spousal abuse.

During the implementation of this project, the team worked on all four elements. It is the sum of these elements that contributes to the accomplishment of the project goals.

This document reports the development and findings of VIOLET: Learning on the Net as funded by the Office of Learning Technologies. Without the foresight of and funding from Status of Women Canada, the support of the Alberta Law Foundation through its operating grant to the Legal Studies Program, and the collaboration of the Alberta Council of Women's Shelters (ACWS), this project would not have been possible. The project team hopes to share its experience—and the experience of the participating women—on this journey to develop and use the Web for organizing information for retrieval and knowledge development.

Project Background

Because of its very nature, it is difficult to determine exactly how prevalent spousal abuse is in Alberta. Estimates indicate, however, that anywhere from one in eight (12 per cent), to as many as 60 per cent of women who are part of a couple encounter some form of violence from their male partners (Harris and Dewdney, 1994, p.p. 407-411). Where that abuse is continuing and extensive, the abused woman may even suffer from a syndrome now recognized both by the medical profession and the courts as producing long-term debilitating effects. Similarly, the scope of spousal abuse in immigrant communities is difficult to assess. Many factors—including the fear of being ostracized by their own community—stop women, especially immigrant women, from reporting incidents of abuse (Sy and Choldin, 1994).

Unfortunately, one of the most significant impacts of abuse is that victims often feel isolated from the very services that can help them. Abused women are active information seekers who often have to contend with the failure of systems to respond promptly to their information needs (Harris and Dewdney, 1994). As well, most abused women are not enrolled in formal education programs and therefore their opportunity to access learning is limited. It is critical that supportive services are as well-known and accessible as possible.

Research suggests that women turn first to family members or close friends for the emotional support they need in order to admit to and address the abuse in their lives. They also turn to police, lawyers, social workers, clergy, and health care workers. In one study, 30 percent of women reported that they had also consulted written material (Harris, 1994).

Some of these resources are not always helpful, however, and none of them can adequately provide the range of information that abused women need to understand their situations and be able to respond effectively. Even when women do access appropriate services, they often need more on-going support than those services can provide. In particular, women need information on an on-going basis as they address the succession of issues that invariably arise. In order to ensure that women access this information, it is important to develop strategies for learning that are suitable for women and, specifically, women in crisis.

A study conducted by the Alberta Law Reform Institute noted that abused women in Alberta feel they have little information about the court process. Many did not even know what a prosecutor was, let alone what would be asked of them in court. They were generally "in the dark about everything that was going on in court" (Harris, 1991). This lack of knowledge about the law was confirmed by a survey conducted in 1995 by the Canadian Bar Association—Alberta Branch Pro-Bono Legal Advice for Battered Women

Committee. After contacting lawyers, RCMP, and community agencies, the Committee concluded that women in rural areas in particular needed better information services since they could not always access lawyers when they needed them. These findings are consistent with those of a more formal study conducted in six southwestern Ontario communities (Harris and Dewdney, 1994).

The Internet (Web) offers a new and exciting means of addressing unmet information needs. According to the A.C.Neilsen Canada Internet Fact Book in 1999 (http://www.acnielsen.ca/sect_fastfacts/index_ff_inter.htm), there are approximately 14 million (49%) Canadians aged 12 and over using the Internet. It further states that 52 percent of Albertans are using the Internet. For those who do not have Internet access, there are public access terminals in public libraries and community centres across the province. This explosion in the use of the Internet is due to the development of World Wide Web technology. This multimedia communications software makes the Internet user-friendly for both consumers and information providers.

The LSP took up the challenge to use this new media to serve abused women. An Internet site can be a handy ready-reference for both an abused woman and those she consults. It offers a customized, authoritative, on-going alternative to a lawyer, police, or other service options that may not be readily or safely available to isolated women. For such a site to be useful, however, it must be accessible to those who need it and it must contain what they need.

In the spring of 1996, a group of women began meeting to discuss the potential of the Internet to respond to the needs of abused women and those who serve them. They conceived VIOLET as a means of

- developing a plain language, women-friendly, safe space on the Internet that provides passive and interactive services to meet the legal and service information needs of abused women in Alberta. VIOLET creates an interactive site where abused women can easily find pertinent legal information and can ask questions arising from their specific situations.
- developing additional legal information services, particularly interactive services, for abused women and those who serve them.
- developing and testing appropriate learning strategies that meet the needs of women who have experienced violence.
- promoting the use of these services throughout Alberta.

Phase I—VIOLET

In August 1997, the VIOLET project received funding from the Status of Women Canada for Phase I of the project: to develop and test a pilot web site for abused women. This web site was developed in conjunction with the Alberta Council of Women's Shelters (ACWS). As part of the development process, a literature review was achieved together with an annotated bibliography on the legal information needs of abused women.

As well, a report on the readiness of Alberta women's shelters was completed. The report indicated that although the shelters have computers, they are used for administrative purposes. LSP assisted ACWS in developing a funding proposal to the Muttart Foundation for an Internet computer station for each member shelter. This resulted in all ACWS member shelters in Alberta having a computer station in a public area.

The simple pilot web site developed in Phase I was tested with one shelter mainly for the validity of the content. The experience gained during this development process confirmed the need to better understand the power of Internet technology in non-formal learning environments and in how learning materials need to be designed to facilitate learning.

One of the initial secondary objectives of VIOLET was to expose and train women to use the Internet for information and knowledge development. During Phase I, the team became even more committed to this objective as women in these sectors were encountered who had computer skills, but did not have any understanding of the Internet.

Phase II—VIOLET: Learning on the Net

Based on its experience with Phase I VIOLET, LSP developed a proposal for Phase II. VIOLET: Learning on the Net was conceived (1) to further develop the web site by applying web-based and adult women learning concepts, (2) to continue to introduce the target group of women to the use of the web site, and (3) through the process of working with the service providers, to discover how women use the Internet technology to learn. Thus the team had further opportunities to explore how these women use the web site. In 1998, the Office of Learning Technologies provided funding to Phase II VIOLET: Learning on the Net.

Objectives

- To explore the learning needs of abused women and those who provide services to them.
- To provide training to abused women and their service providers on using the Internet.
- To identify the technical and contextual issues that need to be addressed to make learning on the Internet a viable option for women in crisis.
- To incorporate the findings in the web site so that it reflects the learning needs of all target populations.

Long-Term Outcomes

- A better understanding of the learning technology needs of women in crisis.
- Improved practice in the design and development of web sites for learning purposes in a community or non-formal educational setting.
- A web site that is used by Alberta women to access information, education, and community-building services regarding abused women.
- A virtual community of women involved in spousal abuse.
- A report on the experience of developing an Internet service for a marginalized segment of the Canadian public.
- The establishment of a network of Internet access points for a marginalized segment of the Alberta public.

Target Audience

- Grass-roots family violence workers, including community workers, volunteers, health workers, and staff of women's shelters
- Abused women

The Project Team

The project team included six women from different educational and technological backgrounds and with different skill sets. The women on the team collectively have competencies and extensive experience in law, justice, and public legal education; family violence; learning design using different technologies, including the Web; women and learning; community development; consultation; training; and web technology and design. Three key women synthesized their experience with women and how they learn within the special and at times challenging conditions in which the women in this project were situated.

The project team found very little information concerning non-formal learning and use of the Internet by women learners. The team reviewed academic articles and books to inform and assist them in formulating the instructional design for informal learners while also absorbing information pertaining to formal learners. Theories of adult education, web-based learning, and women's ways of knowing were synthesized, distilled, and incorporated into the VIOLET web site. The VIOLET project was charting new territory in women's learning and in the use and role of technology.

Qualities of the Web Site

Through research and intuition, the project team developed a list of qualities for the VIOLET web site.

VIOLETNet

- is welcoming and professional looking.
- recognizes the need to protect women users.
- does not resemble a formal learning setting.
- recognizes the importance of relating legal information to women's needs.
- is easy to navigate.
- encourages knowledge building that is neither compulsory nor competitive, but enhances the learner's self-esteem and sense of empowerment.
- encourages self-reflection.
- assists women in naming and relating their circumstances so that they may better understand their situation.
- recognizes the varying degree of literacy without losing the context and accuracy of the information.
- respects women's ways of learning.
- is based on collaboration with relevant groups of women.
- encourages the development or refinement of computer skills.

VIOLETNet is the manifestation of legal data in the context of abused women. The project team, in consultation with service providers and abused women, interpreted and framed the data to be meaningful and useful. The site organizes legal information in different contexts in order to give the user choices in accessing the information. Incorporating elements of constructivism, i.e., that knowledge is personal, each individual is encouraged to build her own knowledge in this subject area.

Although the ultimate goal to enable abused women to make a decision is implicit in the overall design, the site does not emphasize the need to do so. The team has used the unique properties of the Web to make information available to a wide audience who, in most cases, are anonymous and wish to remain so.

VIOLET is simply a digital container with information designed and presented in three different contexts deemed appropriate for various needs at the time the information is sought. In order to present the same information in different contexts, the team had to develop and write original information for the web site. The decision was made not to provide links to other sites in order to maintain the flow and consistency of the site's learning design.

VIOLETNet provides women three entry points incorporating elements of three web-based learning models. All three entry points lead users to similar information albeit in different contexts. Having three entry points gives the user choice in acquiring information that best suits her information needs and learning style at the time of access.

These three entry points represent three approaches in a non-hierarchical structure. The introductory page of the site explains the site architecture. Although each of the approaches seems to support different orders of learning, they were not designed for scaffolding purposes. That is not to say that they cannot be used in a formal learning setting for linear progression of learning. What is implicit in each approach is the knowledge structure, as reflected in how the information is organized and presented. Each approach is designed to be complete in itself. The user may choose to go from one approach to another but if she stays with one approach, she will still get all the relevant information.

At the same time, the three approaches are designed to serve the needs of different women accessing the site at different stages of their need for information. When a woman who has not accepted the fact that she is being abused accesses the site, **Mary's Story** might enable her to name the incidents in her experience and be moved to a state of mind that might trigger a decision. The next time she goes to the site, she may need to find information about child custody as linked in **Mary's Story**; she may want to go directly to **Just the Facts**; or she may go to **It's Your Story** to prepare herself for a telephone call by taking the role of an abused woman calling a shelter.

Review of Literature

Introduction

Spousal abuse is a difficult topic to quantify; exact numbers are not readily available. In the province of Alberta, it is estimated that as many as one in eight women suffer abuse at the hands of a partner. A woman may be assaulted as many as 35 times, however, before she reports the assaults to the authorities (ACWS, 1998). What is known is that spousal abuse is widespread, crosses all socio-economic classes and cultures, and has lasting and sometimes debilitating effects on women and their families. Family violence is an issue of control: usually men in the relationships wield power over their partners. They use the power to control and at times dis-empower women making it difficult for them to leave and change the patterns of abuse.

The VIOLET project involved abused women in heterosexual relationships. In Phase I a literature review of spousal abuse was conducted and included in the original proposal to OLT. The Phase II team focused its attention on women learning through technology. There is, however, a paucity of research concerning the information-seeking needs of abused women using technology. The literature review therefore, addresses the trends in information and learning theory, particularly with adult learners, before dealing specifically with women learners and web-based learning. Throughout its research, the team looked for links among these areas and abused women.

Information Seekers and Communication Systems

Women who have suffered abuse at the hands of a partner may at some point in the relationship seek assistance and information that will help them to change the patterns of abuse. In this way, abused women are no different than other adult learners who seek information to develop knowledge that will assist them in understanding their situation or seeking options. "Information is data that has value in a context" (Clarke, 1999) and the information must be relevant to women at the particular time they are seeking assistance. "Knowledge is the matrix of impressions within which an individual situates newly acquired information" (Clarke, 1999).

When adults seek information, no matter the reason, they initially look at their personal experiences. They may look for information and support from people who are like themselves, beginning with family and friends. They are most likely to make inquiries from friends or leaders in their community whom they can trust (Sy and Choldin, 1994).

For abused women, "institutionalized or formalized sources tend to be consulted as a last resort" (Harris and Dewdney, 1994, p.24). This would indicate that information should be made available through those avenues used as non-formal, non-institutionalized contacts.

To date, what research there is on women in search of information refers to women seeking from traditional sources. Harris and Dewdney (1994) refer to information seekers who use the traditional methods of printed and verbal information. The VIOLET team attempted to project the information needs within a burgeoning electronic learning arena in order to capitalize on growth and skill development in the on-line learning forum.

"One of the main uses of the World Wide Web (WWW) is informal learning through browsing" (Duchastel, 1996). Keep in mind that this browsing attribute of the Web requires different information design principles. When users are browsing and scanning, information needs to be organized and presented in a context that preserves interrelationships and yet is discrete. This type of design not only requires the developer to think differently, it also demands a certain level of user competency to understand the information as a discrete unit while still a part of the whole.

The development of this competency parallels one of the premises of the project. The project team has a vision of learning in the 21st century by effective use of the Internet. This type of learning tool is valuable and important and can assist women today and in the future. "…The Web, in addition to being an information tool, is also a place for discussion, exchange and activism"(Joseph, 1999, p.52). Our research in this area plays an important role in adding to the body of knowledge about designing with the technology, special learners, and their needs in using the technology to learn.

The patterns of abused women seeking information have qualities that are both similar and dissimilar to those of adult information seekers. Clarke (1999) identified four steps in the decision-making process: trigger, information gathering, alternative generation, and choice, the first two of which are particularly significant for this study. The trigger for abused women is usually the threat of violence, which can be an immediate concern. Their information gathering, therefore, may have a degree of urgency. For adult information seekers in the general public, urgency is not likely to be at the same level of stress. It follows that establishing a positive and safe learning environment for abused women and their service providers needs to involve additional factors. Not only the space has to be safe, but also the information needs to be easily accessible with minimal downloading time in the event that the user has very limited time.

Abused women begin their information seeking by reflecting on their own personal and inner resources. If this attempt to solve the situation is not successful, then they may branch out to the non-formal and formal social networks. Abused women are active seekers of information: they are searching for information to assist them in planning a different life. It is important, therefore, that information be accessible, helpful, and positive in order for the women to plan successfully. This knowledge tells us that the needs of the abused women and their service providers are immediate and as such the information framework must relate to their needs, not those of content development.

Harris and Dewdney (1994) delineated factors important to the design of more traditional face-to-face information systems for abused women. The following factors can be generalized to instructional design for the same audience.

- Abused women have different information needs and seek information under different situations than non-abused seekers.

- Affective needs must be considered when disseminating information. For example, there are several basic factors important for information seekers: receiving sympathetic and supportive responses, and service that will alter things for the better. Additionally, these women must know that their affairs will be treated fairly and in confidence.

- Emotional support is an important variable.

- "People tend to consult sources of help that are close by, convenient, and known" (Harris and Dewdney, 1994, p.125).

- The message must contain helpful and realistic information reflecting a practical strategy for action.

The VIOLET team considered similar guidelines when designing an on-line approach to dissemination of information for women who have experienced violence. To ensure a successful site, the learner and all her special needs and characteristics were considered.

Learning Theory

Learning is a natural process and a process of living wherein we interact with others and develop our own meanings from sources of information and data. Learning can also be described as non-normative with a process that is cyclical including stages of reception, meaning making, and action. The learner remains the controller of information intake and processing.

The understanding of non-formal learners reflects to some degree the theories of adult education. When designing formal programs for adults, it is important to consider how adults generally approach learning. For the purposes of this research, several facets that differentiate it from the more formal process of education define learning. The learner controls the learning and the learning is something being done *by* the learner rather that something done *to* or *for* the learner (MacKeracher, 1997).

There are many mitigating factors in the learning process that may impinge on knowledge acquisition. How we display the information for the learner may not necessarily be the way it is perceived. For example, the factors of stress, fear, and conscious and subconscious learning affect the ways in which information is processed. In order to assist adults to learn how to learn, therefore, it is important to consider all the factors of learning. With this consideration in place, the learner may develop cognitive skills transferable to many other situations.

Adult Learners

Adults approach learning with their own reservoir of skills and experiences and use this history to engage with the information, make new inferences, and establish new levels of understanding. Drawing from this reservoir also demands energy and reflection in order for the learning to assist with changes in self-concept (MacKeracher, 1997). If one's energy is being drained by other more traumatic events, then a beneficial learning environment may be more difficult to establish.

Adults want information that is ostensibly applicable to their lives and from which they will be able to enhance their current lifestyle (Knowles, 1980). They tend to require the information quickly and completely in order to continue with their lives.

The principles and guidelines for adult learners have been formed based upon the hierarchical society in which we live. That is to say, the dominant group of learners is composed of men and the structures in learning have been shaped and molded using the male perspective. The ways in which women learn may not always coincide with what is deemed to be the norm (Belenky et al, 1986). Women may acquire knowledge differently than men acquire knowledge (Merriam and Caffarella, 1991; Stalker, 1996). This factor must be considered when designing a web site for women learners. Women may learn differently and as such the web site should reflect ways in which women would best acquire information.

Women and Technology

To use technology as a learning tool for abused women, one must be cognizant of the relationship between women and technology. While the team's understanding of women and the use of technology is limited to women in more formal learning settings, these findings were still considered when the team was designing the site.

Girls and women appear to have a tenuous relationship with technology. Cockburn and Ormand (1993), Sadker and Sadker (1995), and Shade (1993) have demonstrated the ways in which girls and women are excluded in the learning and designing process for various programs and learning sites.

There are differences in the roles played by males and females in today's society that are for the most part constructs of the society. The products of socialization are defined roles, responsibilities, and capabilities of each member (Lorber, 1994; Tong, 1989). There are gender differences in the patterns and practices of the educational systems with some assumptions of the abilities of each sex. Boys are considered to be better at mathematics and sciences while girls are expected to be proficient in the "soft sciences" such as language and history.

Women may organize and construct knowledge and understanding differently than men and it would follow that there would also be differences in the ways women interact with technology and computers for the construction of knowledge. Abilities and skills of learners are defined based on their perceived role in society (Magolda, 1992). These biases may also continue with women and technology. Given that the predominant experience in our society relates to the male experience, current instructional design may exclude or ignore the ways women learn. The literature suggests that most technical instructional design favours male learning and ultimately may exclude the female experience (Culley, 1993; Knupfer, 1997; Moore, 1986).

Males and females appear to present different learning approaches with computers as well. Studies of school-age boys and girls demonstrate differences in the way learning with computers is approached. Boys persist in learning something new by a trial-and-error method that encourages manipulation of the keyboard; girls tend to enjoy working in groups in a co-operative mode and are less persistent in attempting to learn the new technology. Girls see the computer as a tool and develop a more holistic view of learning. They appear to prefer relating computer usage to a practical learning situation (Anderson, 1998). These tendencies are apparent with adult women learners, too, as they appear tentative when developing skills that use the technology and therefore limit use and development in technological areas.

For women, the computer is a machine—a tool to be used when time permits and a need is there. Spender (1995) stated that "women usually want to accomplish specific tasks when they sit down at a keyboard. They are looking to save time." As women are the primary care givers in the household, their time to engage with the computer and its software is limited due to household and family commitments.

Knowing that the Web does not have geographical boundaries, the project team reviewed research on distance education, more specifically as it relates to gender issues. Burge (1990) addresses gender issues in distance education and her attempts to incorporate not only the learning styles of women, but also the impact of the use of technology. Her observations are significant for VIOLET. She suggested guidelines to consider when developing distance education for women:

- build constructivist sites—relevant, authentic, real-world contacts
- make no assumptions about any woman
- give time for reflection and re-visiting
- recognize and accept learners' feelings of insecurity or doubt
- be woman-friendly
- acknowledge diversity
- do not tolerate gender biased learning or research
- provide technical guidelines
- keep track of what does and what does not work
- examine access and equity to ensure inclusivity

Abused Women and Learning

The VIOLET project had the additional element of dealing with women in extremely stressful situations while attempting to learn. This is indeed a significant challenge factor when designing a web site as a learning tool. We have seen that women and technology may not always be in a positive relationship. Although the use of the computer is becoming more commonplace, compounding the experience with use of the computer to obtain important legal information must be considered a complicating factor.

Women who arrive at a shelter are understandably under considerable psychological stress. To attempt to learn crucial legal information under these circumstances is difficult indeed. The hormonal reaction effected by physiological stress is defined in negative terms: "the emotions…are felt as fear, anxiety, anger and pain leading eventually to a state of distress" (MacKeracher, 1997). The learner may not be in a state of mind to learn and may frequently not communicate verbally; learning in this condition may be distorted or negligible. Abused women may also be termed silent knowers as described by Belenky (1986). That means that the women have little confidence in their own abilities to make decisions and to have faith in their own knowledge. They "feel passive, reactive and dependent, they see authorities as being all-powerful, if not overpowering" (Belenky, 1986 p. 27).

The environment must be inviting and viewed as a safe place to learn. If there is additional stress in the learning experience, the learner may tend to delete or distort the information or may withdraw and not interact with the learning situation. If there is prolonged stress, which may be the case for abused women, communication can be more difficult.

To attempt to reduce obstacles to learning, information needs to be presented in a positive and helpful manner. A guided path of knowledge making incorporates a variety of modes and experiences with repetition and variations on a similar theme, thus encouraging patterns of learning to emerge even in stressful situations. Learning that uses strategies supporting "multiple channel learning" presents information and knowledge making from different approaches (MacKeracher, 1997). So as not to discourage the learner, the learning situation should not be threatening. Since there is a sense of disorientation when attempting to acquire any new skill and knowledge, the learner may stop the process entirely if the learning situation is threatening. Any withdrawal on the part of the learner may prove detrimental, especially when attempting to understand legal information.

Constructivist Learning Theory

After much research and discussion concerning VIOLET's potential learners, the learning concepts mirroring the needs of the learner appear to be encompassed in the tenets of constructivism. The major premise here is based on the concept that the learner

constructs her own knowledge by drawing on the events that have transpired in her previous learning. This is one of the outcomes that VIOLET was striving to establish.

In contemplating this type of learning, the team reviewed some of the current models of web-based instruction such as case-based learning, anchored instruction, and problem solving, which are variations of learner participation and construction of knowledge. They all share one property in that they are designed to foster learning that is relevant for the learner. The constructivist approach is also akin to women's ways of knowing where a more holistic approach to knowledge building is acknowledged and indeed encouraged. It appears that the constructivist framework mirrors most closely the ways in which some women approach learning.

The Roots of Constructivism

The theory of constructivism has its roots in a Piagetian perspective that our knowledge is constructed through our experiences and interaction with our environment. The learner accumulates knowledge by accommodating previous knowledge into current experiences. The learner's prior knowledge and mental structures contribute to the way in which the learning experience is linked with previous learning and the way in which the learner reacts with the learning environment. The learner constructs her own learning based on interaction with the environment and with other learners (Gagnon and Collay, 1998).

According to Gagnon, there are four basic assumptions that form the underpinnings of constructivist learning:

1. Learners involved in active learning physically construct knowledge.

2. Learners making their own representation of action symbolically construct knowledge.

3. Learners who convey their meaning making to others socially construct knowledge.

4. Learners who try to explain things that they do not understand theoretically construct knowledge.

Vygotsky's (1978) views concerning the optimum learning environment echo similar ideas to Gagnon. The key points for his understanding of learning follow.

- Social construction of knowledge is one of the foundations of constructivism.

- Cognitive development is constrained and/or influenced by one's social interaction.

- Designers should use a discovery model of learning.

- Collaboration amongst learners is to be fostered. Collaborative and co-operative learning is paramount.

- Scaffolding is a concept that means that one is constantly being provided with activities that challenge and encourage the learner to seek personal assistance. A learner is given a simple activity and then more difficult activities are added that encourage the learner to perform slightly beyond their ability.
- Providing a real-world environment is important, as well as activities that encourage metacognition, self-awareness, and reflection.
- The learner controls the learning.
- Errors are important and provide insight for the learner.

Jonassen (1997) describes constructivist learning environments as situations that engage the learner in activity and involvement in authentic, complex, reflective, and co-operative learning. By engaging in this form of learning, one constructs knowledge and is able to interpret and solve problems by manipulation of information rather than repetition of what has gone before.

According to Jonassen (1991), there are general design principles that one should attend to in constructivist instructional design.

- Provide multiple representations of reality.
- Avoid over-simplification of instruction by representing the natural complexity of the real world.
- Focus on knowledge construction, not reproduction.
- Present authentic tasks.
- Provide real-world, case-based learning environments.
- Foster reflective practice.
- Support collaborative construction of knowledge through social negotiation rather than competition.
- The constructivist's theory of knowledge does not define a specific practice or method and as such some elements assist the translation of theoretical premises into reality.

"Constructivists also believe that much of reality is shared through a process of social negotiation" (Jonassen, 1998). Constructivist philosophy is "centred around the assumptions that knowledge is individually constructed and socially co-constructed by learners based on their interaction in the world" (Jonassen, 1997, p.11). "In this view, the assumption is that knowledge is grounded in the relationship between the knower and the known. Knowledge is generated through social intercourse, and through this interaction we gradually accumulate advances in our levels of knowing" (Kanuka and Anderson, 1998, p.60). Here, there is an emphasis on knowledge construction, rather than reproduction of knowledge. Collaboration and social negotiation are very important in a non-competitive situation. The knowledge construction is filtered through one's beliefs, prior experience, and actions. For the learner, the path of learning is a choice of the learner as well as the pace and activity.

Web-Based Learning

Because on-line learning can present an interactive environment, VIOLET is building the capacity of the learner herself for future personal growth. Women's previous knowledge and mental structures contribute to the ways in which the learning experience is linked with previous learning. Just as Gagnon described learners in general (1998), women as learners construct their own learning based on interaction with the environment of the web site and with other learners.

In the VIOLET project, the design also encourages the development of cognitive tools to allow the women to develop transferable skills that could be used as they seek different lives. "Students not only learn about a particular academic topic while engaged in a Web-based course, but they also work on computer proficiency at the same time. This links to real life skill development" (Menzies, 1997 as quoted in Joseph, 1999, p.47).

The use of a web site works well in adhering to the tenets of this philosophy: the web site can afford the learner the ability to enrich the learning opportunity while encouraging reflection and metacognition. Metacognition is defined as one's ability to "plan and evaluate learning strategies" and "adjust learning behaviours to accommodate needs" (Reeves and Reeves, 1997). With this information, the team molded the site to incorporate the elements that described a non-formal, non-academic setting.

Reeves and Reeves (1997) list the learning dimensions that are effective in interactive learning on the World Wide Web. Their model is composed of ten important dimensions that define interactive learning. They contended that web-based instruction (WBI) is not simply the "rich mix of media features such as text, graphics, sound, animation and video, nor its linkages to information resources around the globe, but the pedagogical dimensions that WBI can be designed to deliver" (Reeves, 1997, 59).

McManus (1995) suggests interactivity can be combined with pictures and sounds and printed text. Such enhancements can be used to teach a variety of cognitive skills while encouraging and maintaining interaction among numerous people who may be separated geographically. Reeves continues that his model of the dimensions is on a dichotomous scale which rarely reflects the world around us. It is sometimes easier, however, to understand the dimensions of a situation or issue by producing a dichotomous progression in which one can see varying shades of grey.

Following are Reeves' dimensions that inform web-based instruction or interactive learning on the World Wide Web.

1. **Pedagogical Philosophy**

    Viewing instructivist versus constructivist approaches, we see that instructivists "stress the importance of objectives that exist apart from the learner," (Reeves, 1997, p.60) while constructivists emphasize "the primacy of the learner's intentions, experience and cognitive strategies" (p.60).

2. **Learning Theory**

There are two dominant learning theories: behaviourial and cognitive. In the first instance, observable behaviours and shaping these behaviours is important. In the other, cognitive learning places the emphasis on mental states that are not always observable.

3. **Goal Orientation**

In determining goals for training and education, a range from sharply focussed to higher order goals could be established. Using web-based instruction affords the range of possibilities and can accommodate a blend of goals.

4. **Task Orientation**

The context in which adult learners learn is important. With web-based instruction, one is able to use a continuum from definite task orientation to authentic tasks that are more demanding in cognitive terms. Authentic tasks tend to engage learners in a practically oriented setting.

5. **Source of Motivation**

Using web-based instruction is not a motivator in itself. Therefore, motivation must be designed into the program, since accessing the Web will not on its own motivate learners.

6. **Teacher Role**

The didactic role of the teacher is easily transferable to web-based instruction. Having learners regurgitate memorized information, however, does not do justice to the cognitive capabilities of web-based instruction. The Web is capable of providing the learner with course content and assignments so that the educator plays the role of facilitator or guide.

7. **Metacognitive Support**

"Metacognition refers to a learner's awareness of objectives, ability to plan and evaluate learning strategies, and capacity to monitor progress and adjust learning behaviours to accommodate needs" (Flavell, 1979 as cited in Reeves, 1997). It is learning to learn and web-based instruction has the potential to support this type of development.

8. **Collaborative Learning Strategies**

Collaborative learning strategies refer to groups of learners or pairs of learners who work together to accomplish shared goals. The learners may benefit from the learning both intellectually and socially.

9. Cultural Sensitivity

Web sites should be culturally sensitive and make such sensitivity an integral part of the design. Sites can build upon the diversity of the learners rather than limit them.

10. Structural Flexibility

Web-based instruction provides opportunities for open interactive learning environments that are not fixed learning situations directing the learner in one specific mode or route.

This analysis of the dimensions of learning on the Web illustrates the point that the Web is a changing medium for learning and holds promise to alter the methods by which we gather information and form our knowledge. One can see the correlation with the roots of constructivism and knowledge development.

The Web as an instructional tool has been experiencing phenomenal growth in our formal institutions. As students and staff alike become more attuned to using the technology and as computers become more and more common in our society, use and availability of this tool will only expand. Currently, educators are looking to the Internet as a viable and important interface for learning and reaching learners at various points in their lives.

Although the literature concerning web-based learning is still developing, there are important issues to consider. There are no definite theories concerning education and the interactive learning world of the Internet. The Web can be a tool that enhances the design of the learning rather than dictating and determining the learning. It is easy to bring audio and video clips to the learner with a click of a mouse; however, the Web is more than that. "In addition to being an information tool, it is also a place for discussion, exchange and activism" (Joseph, 1999, p.52).

Using the Internet as a learning tool is seen as a vehicle "for implementing instructional improvements" (Reeves, 1997). The Internet is viewed as a powerful cognitive tool, a technology that "enhances our thinking, problem-solving and learning" (Reeves, 1997). The VIOLET project was certain that with interactive learning environments, the web site for abused women could also accommodate a variety of learning styles, levels of anxiety and stress, as well as attitudes and abilities. Currently there are several models of web-based instruction in use and in development. The following section delineates the models and the premises on which they are constructed.

To date, most conceptual models for web-based instruction are based on "rich, co-operative, authentic environments" (Campbell, 1999) and encourage a learner-centred approach rather than an instructor-driven approach.

The emerging models reviewed for this project include:
- Problem or project-based learning
- Anchored instruction
- Situated cognition or cognitive flexibility

- Goal-based learning
- Case-based learning

For each model, the project team reviewed the basic tenets of design, the expected outcomes, and the ways in which the learner is guided to approach the model.

Problem-Based Learning

In a problem-based learning environment, the learner acts as a professional and "confronts problems as they occur—with fuzzy edges, insufficient information and a need to determine the best solution possible by a given date" (Campbell, 1999). Real life problems are presented and while struggling with the problem, the student learns content and critical thinking skills. The teacher or instructor acts as facilitator and is not there to solve the problem for the student. No one formula is given that will solve the problem. The learner can develop skills that encourage her to determine the path that will lead to a solution. Problem-based learning also encourages collaboration and negotiation on the part of groups to determine solutions and to develop new knowledge products.

Anchored Instruction

Initially, anchored instruction was based on interactive videodiscs that "encouraged students and teachers to pose and solve complex, realistic problems" (TIP, 1998). The video materials served as anchors to the problem, presenting information about the context of the problem. The materials used in anchored instruction allow and encourage the learner to explore and to learn about the situation.

Situated Cognition or Cognitive Flexibility

In the situated cognition or cognitive flexibility model of web-based learning, the emphasis is placed on advanced knowledge domains that represent authentic contexts through which the learner can assemble and retrieve knowledge to understand particular situations. As authentic contexts tend to be ill structured, cognitive flexibility hypertexts need to provide multiple representations of content (Khan, 1997, p.121). "Cognitive flexibility theory accentuates the role of context, information acquired in a real world context is better retained" (Spiro et al, 1991 as quoted in Khan, 1997, p.120). Two of the most critical features of this type of learning environment are integration and comprehensiveness. This model requires more time and energy on the part of the learner, but it can assist in the integration of new knowledge into existing knowledge.

Goal-Based Learning

In goal-based learning, the learners are given the goal that they must accomplish or reach. The goal is constructed around certain skills and requirements that are important for the learners to complete. The instructional designer designs the mission and the students must realize when they have accomplished their goal and that they have developed skills they can use in other situations. The goal-based model is an activity that encourages community building and knowledge constructed together by a group.

Case-Based Learning

Similar to goal-based in that there is a case or a series of problems presented to the learners, case-based learning uses a real or simulated case for study. An expert in the field can be queried for additional information. There are failures built in so that the learner can try other options, testing ideas and thoughts against a set of cases. The learner learns to think in complex patterns and in like manner to a practitioner in the particular area of study.

Summary

The literature concerning learning and the use of technology-based learning tools is evolving to keep up with technological developments. The available information addresses formal learning offered by educational institutions, but does not address the needs of VIOLET's non-formal learners. Therefore, VIOLET's design decision-making was based on the team's analysis of this information applied to the target audience and the learning environment. Final design considerations took into account all of the factors that pertain to adults and learning with emphasis on women in the use of the Web for electronic information and communication.

Web Site Design Process

The design and revision of the current web site has been very much a team effort. As indicated earlier, the VIOLET project team consists of four key women and two other women who formed part of the team, as the task required. Teams of two or three women worked on various aspects of the project. The design team employed a fluid web weaving approach to this design process. Based on our experience and understanding of the abused women and their service providers, we developed the twelve qualities of the web site as listed in the Project Background (p.6). We collectively discussed and identified important factors to consider in the design process, addressed issues relating to each factor, validated our thinking in our group and through reading, and reflected on the design decisions as they unfolded.

We also consulted with service providers including shelter workers and abused women. It is through this process that the team revised the lists of qualities and arrived at a decision about the web site's conceptual design—its architecture and visual design. Based on the architectural framework, we worked on the content and information and organized it into a Web file structure that reflects our thinking. During this process, we discussed the desired look and feel of the web site with the visual designer. Collectively, we then worked with the visual designer to finalize the design concept.

There were many factors that we considered during the design process.

Unique Characteristics of the Web

As the Web continues to develop and the cost of connectivity continues to drop, it is moving closer to being a daily utility. The Web is viewed as a great information source where one can access free information. It is mainly used to gather information through browsing.

In general, Web users can be classified into two main categories: those who enjoy learning and are fondly known as "information junkies" and those who are looking for information to solve a particular problem. Neither set of these users considers themselves learners as defined by educational institutions. Instead they are looking for information to satisfy their curiosity or to enable them to take action. Most of the information on the Web raises awareness, promotes, and informs a wide variety of audiences. Thus, it is used more for communication and less for instruction (Duchastel, 1996).

The unique characteristic of the Web is its ability to store, retrieve, and deliver information easily as needed by the users regardless of geographic location. In some cases, the Web is used as a vehicle to deliver information such as downloading files of government publications. In other cases, social activists are using the web to convey their messages and build support (Sutton and Pollock, 1999).

Besides transferring information to a broad public audience, the Web can be a very private tool. Anyone can be anybody on the Web. Unlike using the library or going into a service organization, web users can be invisible and anonymous. Abused women are reluctant to go into a public library asking for information on spousal abuse for fear of their spouses and for fear that the community will find out about the problem. Compared to using the library, especially in a small town, the Web can be a very private tool if the user knows how to use the technology. Even if the woman is using a public access terminal, as long as she knows how to use the computer and access the Internet, other people in the library do not know what she is accessing.

Assumptions Regarding Site User's Characteristics

Acknowledging the fact that anyone with Internet access can access the VIOLET web site, the project team focussed on designing the site for mainstream abused women and their service providers. Based on our understanding and in consultation with members of the Alberta Council of Women's Shelters, we identified six key characteristics of this particular target audience: discomfort with formal education, a need to learn how to use the Web, women's learning styles, confidentiality, lack of time, and testing in the shelter.

Discomfort with formal education

The project team was aware of possible negative experiences with formal learning by the target users. These experiences may have been caused by the system not honouring their way of knowing. The site was developed to reflect a strong intent that honours the users' needs to be in control yet provides some guidance. Thus, the guidance is reflected in the information and interface design and not in the activities that require overt participation. ACWS pointed out to the team th*at if the web site were to look complicated or if users felt they needed to spend long periods of time to get the information they would lose their motivation. We designed the web site for women, therefore, as a site to learn through browsing and self-directed learning or guided scanning.

The team discussed at great length the tension between the need to provide activities and questions to enhance active participation, which leads to knowledge development, and the issue that browsing facilitates acquisition of information that is perceived to be important. During this process, we were challenged in our own thinking about learning. In the end, we opted to use the unique Web feature—browsing. We designed the information in context, but without the visible interactivity evident in formal learning environments, e.g., questions and answers, with the exception of the approach used in **It's Your Story**.

A need to learn how to use the Web

With this particular audience, the Web's capacity to allow users to start at any page and move freely back and forth to any other page is a barrier to learning. When any learner is confronted with a new way of learning, her anxiety level is very high. In circumstances of abuse, the emotional stress is already high, so she may not know where to start. The site needs to offer information on where to start and how to navigate.

The team is aware of the women's lack of computer skills. Thus, as part of the research, we introduced basic computer and Internet skills before working with them on the web site. This brief training element was incorporated into the pilot testing session in order to allow the women to test the site.

Women's learning styles

The nature of the non-interactive part of the web may not be congruent with the learning style of women. Since the nature of the web encourages individual access, it lends itself well to separate knowing (Belenky et al, 1986) and autonomous learning (Magdola, 1992). But most women are connected knowers and not separate knowers (Belenky et al, 1986), so we considered the use of relational concepts in the training session.

Belenky and others described silence as another way of knowing and as a type of knowing associated particularly with women who experience abusive relationships. Since VIOLET is designed for abused women and their service providers, we had to consider the design concepts carefully.

We feel that there is a strong need to research the power of the Web in building on-line community, a relational concept in design, and the reality of abused women using this interactive component. The issue of including relational design concepts is for future consideration. To compensate for the lack of application of relational concept design on the web site, we intentionally organized the training and research of the web site with women in small groups to facilitate connected knowing. It was also possible to work with a limited number of women on a one-on-one basis. We are confident that the group setting facilitates better learning.

Confidentiality

We know that security is a very important issue for both the abused women and their service providers. Just as they need security in real life, we did not want to endanger them on-line. Thus we had to forego design elements that keep track of where a user is during each session. Any record keeping might be perceived as a violation of confidentiality. As the use of the Web becomes more common, options can be provided for the user to create a simple profile to keep track of where she was when last on-line. Keeping in mind that

the intended users are not necessarily treating this as a learning experience, they may be more apt to browse through the information again. A flexible search engine may be more suitable to their needs.

Lack of time

In most cases, both abused women and their service providers do not have a lot of time to look for information. Thus, two of the approaches provide information without requiring long periods of time on-line. **Mary's Story** uses a simple story telling approach. Users can quickly read through the story and link to information written in the context of the story. **Just the Facts** was designed for them to be able to go into a section, get the information, and get out. The **Just the Facts** approach was not written in a real life context. It is organized along the lines of procedure or process, reflecting what could happen if certain steps were taken.

Testing in the shelter

The shelter was an artificial environment for testing. The shelter is not the key setting where we hope abused women will seek information. It provided the research team, however, with an environment, a group of abused women, and their service providers to observe how they would access the information. The testing provided the team with information to assist us in redesigning the web site.

Nature of the Information (Content)

The focus of the VIOLET web site is the legislation available to women in an abusive spousal relationship. The law speaks with authority. As a legal alternative, it needs to be consistent and accurate. Most helpful to the user is legal information presented in real life contexts. For women under stress, they want a definite answer and not one that has to be interpreted by other people, i.e., the court.

As indicated in the literature review, Belenky and others (1986) identify silence as a way of knowing common to women with a personal history of abusive relationships. One of the common characteristics of the silent knowers is that they do not gain knowledge through words (MacKeracher, 1997). This makes organizing and presenting legal information on VIOLET a challenging task.

Technical Environment

The first phase of this project was in collaboration with the Alberta Council of Women's Shelters. Early on, the project team became aware of the lack of computer hardware in the shelters and possibly in other wife-abuse related service organizations. One of the spin-offs was to assist ACWS in securing funding for Internet stations in each member

shelter, which was achieved through funding provided by the Muttart Foundation. The presence of the computer is the first step toward introducing VIOLET to the shelter. The survey in Phase I confirmed that each shelter has minimal technical capacity in the use of computers and the Web.

Environment of Use

Under stressful conditions and with the impulse to look over one's shoulder, our users require fast-loading pages and quick access to information.

The team decided that, in order to have contextual information from the perspective of abused women, we had to develop and, on rare occasion, adapt from existing materials. It was also a conscious decision not to link to information external to the VIOLET server. Based on a survey of existing on-line materials, we found that they are generally not written in context and tend to be procedural or content-centred.

VIOLET is designed to employ the salient features of the Web, particularly the non-linear structure of information. Each section can stand on its own if the user chooses to use it that way. Related information is linked, but can be ignored.

The Web presents an exciting challenge in that anyone who has Internet access can potentially be the learner or user of the information. The nature of the hypertext gives users the choice to jump easily from one screen of information to another, thereby disregarding the underlying conceptual structure on which the content is organized.

Research Methodologies

VIOLET: Learning on the Net was charged with identifying the training needs and developing and testing learning strategies for abused women and their service providers, especially women who are isolated psychologically or geographically. The service is to include the provision of:

- learning opportunities in relevant legal information,
- on-line community for support and sharing of experience and information, and
- on-going updates of legal information and community services.

The project team knows that women in general need to learn the technology in order to function in an increasingly knowledge-based economy and society. The fact that VIOLET is about law and family violence gives this particular group of women a reason to learn how to use the Web. This will further expose them to other information on-line while bringing them to a comfort level with the technology.

Qualitative research in an interpretive, naturalistic approach was employed for this project. The foundation of the analysis rested on the comments and thoughts of the individuals within the groups across the province. As Berg (1989) states, if research focuses on "naturally emerging languages and the meanings that individuals assign to the experience" (11), therefore, researchers "share in the understanding and perceptions of others and…explore how people structure and give meaning to their daily lives" (7).

Objectives

There are four main objectives of VIOLET Phase II.

1. To explore the learning needs of abused women and of those who provide services to them.

2. To provide training to abused women and their service providers on using the Internet, considering at the same time:
   - the most suitable learning strategy for women who have experienced violence.
   - the most suitable learning strategy for family violence workers.
   - the most suitable learning strategy for immigrant women who have experienced violence.

3. To identify the technical and contextual issues that need to be addressed to make learning on the Internet a viable option for women in crisis.

4. To incorporate the findings into the web site so that it reflects the learning needs of the target populations.

The VIOLET project is expected to contribute to the growing body of literature concerning the use of the Internet for learning. The project comments on the strategies that women require when seeking information with technology, while exploring how the technology can meet an information gap in the service areas of family violence. The resultant qualitative data contributes to the understanding of how these women use the Internet to gather information and enhance their learning. This can contribute to the knowledge of web-based learning approaches. Findings will be assessed and incorporated into the web site.

Research Components

Prior to the implementation of VIOLET: Learning on the Net, two major components were identified for this research: (1) the small group qualitative study to be conducted by the project team and (2) an evaluation consisting of expert analysis and usability testing conducted by an external evaluator. Pertinent sections of the expert analysis and usability testing are included in the External Evaluation section of this report (p. 41).

Phase Development

Building on the web site that was developed in Phase I of VIOLET, Phase II instituted the following steps.

- Develop a research plan.
- Develop tools for research.
- Develop and test three learning strategies with women housed in shelters.
- Assess and evaluate the learning strategies.
- Incorporate changes into the web site.
- Explore the learning needs of women who are providing services to abused women.
- Incorporate findings into the web site after having tested and evaluated the site.
- Explore the learning needs of immigrant women.
- Develop research, evaluation, and testing tools to determine the best learning strategies for immigrant women who have experienced abuse.

Developing a Research Plan

A research plan was designed to incorporate (1) the process by which the information would be gathered, (2) what would be tested, and (3) with whom. Specific timelines and results were determined. The research plan is included in Appendix B.

Current literature pertaining to adult learning that incorporated technology, female adult learners, and the learners in our project was gathered and reviewed. We also ascertained what learning tools to develop and how to evaluate them with the learners. A review of current web-based designs was undertaken in order to glean the advantages of each and judge how they might relate to the informal learners for whom the web site was being prepared.

At this point in the development of the research plan and in consideration of the designated participants, the research proposal was submitted to the faculty ethics committee for review prior to commencement of the research. Committee approval was subsequently received.

An electronic discussion forum was maintained for the project members to collect thoughts and impressions after each meeting and each development. This discussion highlighted the processes that were underway and facilitated discerning patterns that would be usable in instructional design for informal learners in future projects. Coupled with the development of the site and its learning approaches, the team continued to research on-line learning and the use of technology and instructional design in order to be current with developments in formal educational settings.

Development was designed with the neophyte user in mind, with respect for innate intelligence, and without condescension. The web site was designed to encourage the learner to continue her skill building in the midst of her difficult situation. Not only was the project attempting to build computer skills and related transferable cognitive skills, but also encouraging the women to construct knowledge, develop a sense of accomplishment, and heighten self-esteem.

The approaches also encourage women to name their experiences and by so doing, understand that they are able to plan successfully for the future. The learning adds to their repertoire of cognitive skills so that they may transcend the simple ability to understand a legal definition or develop proficiency with the technology.

In each of the three approaches, the reader is guided to learn and develop her knowledge based on her own experiences and personal needs. The team recognizes that the women bring their own knowledge and levels of expertise. Following the concepts of constructivism, the site employs several devices in order to encourage knowledge building while establishing a sense of accomplishment for the reader.

Currently, the site has three entry points reflecting three different learning styles. Each entry point leads the user to the legal knowledge that she needs, using methods she chooses. Each entry point is based on a different learning approach. **Just the Facts** presents the legal information using a procedural informational approach. Using a case-

based approach**, Mary's Story** takes the reader through a discovery of legal information as told through an abused woman's story. **It's Your Story** uses web-based learning design in a situated cognition approach.

VIOLET's learners are not enrolled in any institutional program where the standard assessment tools of testing could be incorporated. How could we measure success of the web site? How would we be able to measure the usefulness of the site to the women? Developing criteria to measure the learning outcomes in this informal setting was perplexing. In formal learning situations, both the learner and the facilitator can design the learning outcomes and collect copious amounts of information and testing data. With informal learners in extremely stressful circumstances, however, the success of the learning methods may not be so easily described. Perhaps once the site is up and running, researchers will be able to return to the learners and determine levels of use and understanding. A count of daily users could also be instituted.

Group Qualitative Study Methodology

Design

During the development of Phase I of VIOLET, all shelters in Alberta belonging to the ACWS listed their computer capabilities and their willingness to participate on the Internet. With this list in hand, the shelters were asked whether they would be willing to train in using the Internet and to evaluate the VIOLET web site. The project team had determined to include a mix of rural and urban settings, and emergency and second stage shelters, as well as talking with service providers and women in care. The team was pleased, therefore, when the shelters that responded included rural and urban centres, emergency and second stage housing, as well as representing a geographic cross-section of the province.

Later, the research contact component grew to include non-shelter organizations that deal with family violence. This grouping included organizations that primarily deal with urban clients, not all of whom have family violence as their main mandate. This additional component of training and testing was viewed as necessary in order to consider a wider audience in future ventures. It was also considered a good testing tool for those not directly involved, allowing us to ask whether others would consider using the tool for their own purposes.

After each training session, the groups were questioned concerning their experiences with the web site. The question periods were informal and semi-structured and based on the pilot study questions (Appendix A).

Of the 68 shelter participants in the project, six were abused women and the remaining 62 were service providers in shelters. All participants were women and had volunteered to participate in the study. By choosing shelters in a variety of locations and servicing

different stages of the cycle, we were able to inject reliability and transferability of findings from the research.

Pilot Study

In February 1999, pilot testing of the training and the web site was completed in an urban setting in central Alberta. The organization is not a shelter, but one that deals with family violence and its consequences on a daily basis. Two of the project team met with staff who had volunteered to take part in the pilot. The testing was held in an office with a computer that had an Internet connection.

The VIOLET project—its history and mandate—and an outline of the half-day session were presented to the volunteers. The participants were assured that all of their comments would remain confidential and that no specific comment would be attributed to their location or staff. Once the web site was introduced and the volunteers learned how to connect to the Internet on that particular computer, the five women began using the site. Their comments and actions were observed and noted. The volunteers were directed only once in their time with the site: they were asked to go into the **It's Your Story** site to use its interactive portion.

After approximately 45 minutes, an audiotaped debriefing was held. Appendix A provides the interview questions. The transcript was later analyzed and assessed in terms of findings and fine-tuning of the training and assessment process to be used with shelters in Alberta.

There were three to four major areas or headings that were considered in the questioning:

- **Content**—was the content realistic for abused women?
- **Navigability**—were you able to get around in the site and how easy was this to do?
- **Uses**—where would you use this site, for and with whom?
- **Impressions**—what are your general comments about the site as a whole in relation to your work setting and clients?

The pilot testing allowed us to use the web site outside our usual environment and to gather information that would be used in the analysis of the site, its information, and the learning approaches. Project members then established times to visit shelters in urban and rural settings for further testing.

Sample and Data Administration

Our sample was a purposeful one, based on the boundaries of the original VIOLET project concept and the use of technology in a specific informal setting. The contacts had been established by one of the project members whose experience and formal contacts

with the shelters are extensive. Her expertise in this area was needed in order to gain access to the shelters and their staff.

Testing in Shelters

In February 1999, three project members went to a large urban centre in Alberta to introduce the site and ask questions regarding the four factors of content, navigability, uses, and general impressions.

The first site was an emergency shelter with sophisticated security, as there had been incidents in the past of severe violence on site. All staff members were present. Two separate locations were set up to view the site. The shelter had only one computer with an Internet connection, so a laptop with the site had been set up in another room. The volunteers were separated into two groups, with one group using the Internet computer to view **It's Your Story** while the other group was able to view **Mary's Story** and **Just the Facts** on the laptop.

After a specified period of time, the groups switched places in order for each group to experience the entire site. This was not an uncommon practice in the shelters as usually only one computer had an Internet connection and too many women around the computer made it difficult for everyone to see and participate. As with the pilot study, the women at the first shelter were service providers and no women in care were present for the testing. A debriefing was then conducted with all comments being audiotaped for future analysis.

In the remaining shelters there were only two of the original team members at each setting to introduce the site and to question the group, using the same questions. The format was similar for each shelter. Due to the number of staff who were interested in learning about the site, the groups were divided after a common introductory session. Then, after a suitable length of time, the groups physically exchanged settings in order for all participants to be able to access the live Internet connection. All participants were informed that their comments would remain anonymous with no one shelter or learner being singled out for comment.

For each of the training and evaluation sessions, the following agenda was loosely adhered to.

- Introduction of the site and its history and purpose
- Introduction of the Internet and use of the site and explanation of "how to" (training element)
- Participants use site as they choose
- Debriefing and question period

Questions for the debriefing were based on the following

- Overall first impression
- Content
- Navigability and accessibility
- Usability
- Impressions and suggestions for change

The following chart displays the provincial location of the shelters and the number of learners at each session. The second chart shows similar information for the non-shelter locations.

S H E L T E R S

SHELTER LOCATION	SHELTER TYPE	NUMBER OF PARTICIPANTS	TYPE OF PARTICIPANT	Transcript
1. Urban	Emergency	13	Service providers	Yes
2. Urban	Second stage	5-6	Service providers	No
3. Urban	Second stage	7-9	Service providers	No
4. Urban	Second stage	4 -6	Service providers	No
5. Rural	Second stage	10	Service providers	No
6. Rural	Emergency and second stage	5	Service providers	No
7. Urban	Second stage	6	Abused women	No
8. Urban	Second stage	13	Service providers	No
		Total: n=68		

NON-SHELTER LOCATION	TYPE	NUMBER OF PARTICIPANTS	TYPE OF PARTICIPANT	Transcript
1. Urban	Family violence prevention	4	Service worker	No
2. Urban	Family violence, retraining, and prison rights	2	Service worker	No
Total n=6				

Data Collection

As previously stated, there were three project members involved in the initial data gathering at the shelter in southern Alberta. The remaining sessions were conducted by two of the three project members, who maintained the session structure. Only one project member conducted the sessions at the non-shelter organizations.

Data collection served a two-fold purpose for the study. Besides collecting data, a training session was built into each session to familiarize the women with the computer in their particular work area and introduce use of the Internet. Each shelter has its own computer dedicated to the Internet and use of the VIOLET site. Many women—at least half of each group—were unable to turn on the computer and connect to the Internet and this step was included in the training prior to seeking comments and feedback about the site itself. Once the site was introduced, the women were asked to choose the section of the site that they wanted to see. Each group that used the live connection to the Internet was directed to use the third approach, **It's Your Story**, in order to test the interactive component of the site.

Complications of Data Collection

There were certain complications discovered when testing and reviewing the web site for informal learners. As researchers, we were entering their work area and entering their relationships. The testing and training areas were not sterile, stand-alone units, but dynamic, real-life situations. For example, at a large urban second stage shelter, the computer was located in the general area for all residents and their family members to use. As all visitors and residents passed by the computer, the noise level was excessive. While the training was underway, staff members were frequently called out as they were also on duty and had to deal with the needs of the residents and their families.

In rural settings, shelter locations are well known to the local inhabitants. In one case, the shelter served several purposes: shelter, food bank, and clothing exchange. Therefore, there is no security on site and many people come to the shelter for various reasons. The computer in this location was wedged beside a large white chest freezer that keeps the frozen chicken and bread for the food bank and residents. To use the computer was not easy given its proximity to freezers and other furniture. It was an area of many uses and many distractions. The researchers soon realized that audiotaping a debriefing session in this setting was not likely to be productive.

While conducting research, one is always mindful of the physical location, the impediments for use of the computer, the sound and noise level, and the frequent interruptions. These computers are not in a business office, but rather the home and safe place for workers and women alike. This was distracting initially, but the team members soon realized that these complexities are real and that they not only influence the use of the computer, but also speak to the conditions in which the women will be learning. These circumstances will affect the ways in which the web site needs to be structured for fast and efficient use throughout its lifetime. Having an awareness of the physical and psychological surroundings of our target women is important to consider for design purposes to ensure that the learning is accessible, non-threatening, and easy to review.

Data Analysis

After each session throughout the province had been completed, team members discussed the session and determined what had been learned. An electronic forum was set up to track the process of the research and to capture thoughts of team members. This electronic diary has also been used as an artifact in the research in that it serves as a log of the project and the reflections of team members. The forum becomes an integral part of the research and of the determination and analyses of findings.

The data analysis was influenced by some of the conditions associated with the physical area in which we were conducting the group qualitative study. We only worked in shelters that were members of the ACWS in busy and stress-filled environments that had many distractions. Although web sites are designed for individual use, we asked the participants to work in groups in a non-formal learning environment. As these sessions were conducted informally, we did not evaluate user levels with pre- and post-evaluation devices.

Group Qualitative Study Findings

Our findings have been gleaned from recorded verbatim comments made as the participants were using the site, comments made throughout the sessions, and comments made at the debriefing sessions in response to the team-explicit questions. As the Web lends itself to personal use, we were asking the participants about their personal preferences when using a web site. We honoured each participant's comments and analyzed their comments using our design intent as a guide.

The project team reviewed the transcribed and verbal comments and discovered the following themes: women and technology; technical design; and women and learning. Comments and observations for each theme are addressed in the following sections.

Women and Technology

Our findings concerning women using the computer mirrored the current available literature on this issue. In the training sessions, the number of non-users of the computer and the Internet outnumbered those with experience. Approximately 60 percent were non-users. The women made self-deprecating remarks about their computer skills and that they were afraid of breaking the computer or causing a crash. One participant had never touched a computer mouse prior to the training session. As she struggled to point the cursor and click, she said that she wanted to build a trap and put the mouse in it so that she knew where he would be all of the time. The mouse to her was not an inanimate object, but an unruly rodent that needed taming.

Another woman wanted to know who called it a "mouse". She told us that saying, "Put your hand on the mouse" was a statement that most women would probably think twice about before responding! These comments illustrate the relationship that women as non-users have with a computer. Although the computer is a machine, it appeared to be something that they saw in a different light as a foreign, almost animate object.

The project team assumes that the abused women are under extreme emotional and psychological stress. This stress and the stress of encountering a computer for the first time may magnify any negative effects of learning. This notion holds true for the shelter workers as they work with the women in this environment. The fact that the women volunteered to participate in the training and research may have minimized some of the stress as they decided to experiment with the computer. The team noticed that, as many women felt some stress about the computer, the idea that they were "all in the same boat" contributed to raising their comfort level with the computer.

The women's self-esteem in regards to the computer was low and that highlighted a low motivation to learn how to use the computer prior to the training sessions. The women brought their own personal barriers in using the computer. With encouragement from colleagues and the project team members, however, the first-time users soon began to feel more comfortable using the computer. Indeed, there were visible physical signs that the stress was reduced as they appeared to be physically relaxed and their discussions were now not self-denigrating. The women talked to the computer and engaged in answering the questions in the interactive component of **It's Your Story.** Perhaps educators should consider the physical configuration of computers and monitors in order to encourage collaborative learning for women when they are in groups. Most computer labs have rows of desks with computers that do not allow users to physically collaborate with each other.

As their confidence grew throughout the training session, the participants seemed to enjoy learning. They were excited about what they were finding and often commented about the information in front of them, noting how comprehensive the information was. After the training sessions, many of the women stated that they would now be more likely to use the computer on the work site and at home, and to encourage other women at the shelter to use it. We were pleased that the women were willing to use the computer at a later date and to suggest to their clients that the tool would be useful for them. At one shelter, a participant gave the web site address to her husband via telephone when he called her from his work site to request information for a co-worker who thought that abuse might be happening in her family. The participant was impressed with the site even though it was still in testing mode.

One of the service providers stated that by sitting down with a client, she could also engage the client in counselling as they looked at the web site together. This was encouraging, as the women appeared to have made a transition from non-use of the computer to incorporating the computer as a tool to aid them in counselling on a one-to-one basis. For some women, the fear with which they had initially approached the computer had abated to the point where they would incorporate the tool into their repertoire to assist abused women.

The women for the most part saw the computer as an information tool and not a source of amusement; this is consistent with the literature. The information on the site related to their experiences and knowledge about their jobs and as such they could relate positively to the information once the fear of using the computer had subsided. Having information that can be quickly applied to a practical setting is very important for adult learners. To use information that relates to the lives of adults was a calculated design in order to encourage the women to try using the computer. They were quick to see a practical application for learning computer skills.

These experiences showed us that women might prefer to learn in a collaborative fashion, as they were able to seek support from each other and increase their confidence level. Women process the information by talking with others and relating the information to their own experiences. The service providers discussed how they had approached situations with particular clients and how they now had even more complete information

for them. It was beneficial to provide constant verbal support as the women tried to navigate the site. It also demonstrated that there are still many women for whom the Internet and a computer are foreign.

The age factor of the women may be significant in our findings. The age range of the women was approximately 35 to 50 years. These women are being introduced to the computer at a later age. As the use of the computer grows, it is hoped that women will engage with the technology and use it to their advantage. There must be allowances for the ways that women of different backgrounds and ages prefer to learn incorporated into the training and the design of the software. This was nothing new to the team.

Technical Design Findings

Content

The content of the site was first designed and collated for the section titled **Just the Facts**. Once the project team knew that the information was comprehensive and complete, they were able to adapt the same information for the other approaches— **Mary's Story** and **It's Your Story**. The team recognized that the site is laden with text. There was a conscious decision at this point in VIOLET's life, however, to ensure that the information could be printed easily and in complete sections. The team wanted to provide access to information with little need to link out to different sites.

The training and evaluation sessions gave us much information about the site from a technical view. We were interested in finding out if the content itself reflected the experiences of both abused women and their service providers. Was the information presented in a realistic fashion and were these the issues that face women who are considering leaving an abusive relationship? The comments were overwhelmingly positive. The content was considered realistic and the situations and conversations deemed to be ones that are played out on a regular basis. Some of the women clients commented that this is what they had experienced and the information was clear, helpful, and excellent. Our story and questions are common in shelters and from abused women seeking information.

The team also decided not to be directive by telling users which site to go to and how to move through it. Rather, the content was reflected in several ways in order for the women to make their own choices about their information needs. We did not want to appear patronizing to the user as the site is there to guide women, not to direct them. If there were some initial difficulties, then over time the women would be able to discern how to use the information. We found with our training and research sessions that this was the case. The women were discovering for themselves what the site contained and making personal choices about the information that they wanted to see.

Language

The language of the site was considered readable with a readability score of 5 to 8 as determined by the evaluator. The language used, for the most part, was considered realistic and would not pose a problem for readers. Comments about language were positive with some suggestions concerning the reading level of the text. It was suggested that the readability level may be too high. Lowering the readability is being considered as the site undergoes alterations

Some of the participants suggested that we use other words for legal definitions. The aim of the site, however, is not to give alternative phrases for those that exist in law and that the women need to know. Even if they could not remember the exact definitions of a term, the site at least introduces the women to the phrase so that it will not be totally unknown and overwhelming when or if they come into contact with the justice system. The women need to know in what context and with what language the system operates. This is viewed as important in order for the women to attempt to work their way through the judicial system. They need to be adequately informed in order to make choices that suit their particular situation. Legal concepts can not be easily simplified, however, and the site was designed for a user who is able to read at a certain proficiency.

Navigation

The navigation of the site was considered positively by the women. The women were able to find their way around the site and did not get lost very often while they were working through the stories. The comments were positive: "I didn't get lost;" and "I knew where I was and where I should be going;" and "It was easy to get around within the site." The navigation was transparent even for those women who had not used a computer or a mouse prior to the sessions.

The comments made to the team members indicated that their information needs were being met and that they knew where to obtain the information for future reference. The women commented that **Just the Facts** presented the information in a form that was easy to follow and reflected the nature of an abusive situation. That is to say, the hierarchical structure of the information followed a common pattern for abused women and the stages through which they are likely to go. They commented that once they felt comfortable in physically moving the mouse, for example, they knew where to go and how to move around within the site. Apparently, toolbars and directions are appropriate.

The information and presentation of the three approaches were also viewed positively. Due to the fact that the project team was working with a maximum of one computer per shelter that had access to the Internet, the team used a laptop in conjunction with the centre's computer. The women were together for the introduction to the session and then were divided into groups. One group accessed the Internet and the interactive components of **It's Your Story**, while the group using the laptop reviewed **Just the**

Facts and **Mary's Story**. After a designated period of time, the groups exchanged places so that the group who had used the laptop was able to access the site via the Internet. In order to introduce the women to the site and the information that it contained, the working groups were kept to manageable numbers. Each participant was able to take a turn with the mouse, scrolling and linking at the site.

The service providers thought it was very useful to be able to check information that was up-to-date. The women saw the site as a reliable source of information and one they would turn to in the discharge of their duties. The site is another tool for them. For example, the service providers stated that they would probably use **Just the Facts** more often to ensure that their understanding and knowledge is up-to-date. For them the notion that they could quickly use the site as a reference "book" and guide is important. The information can be obtained quickly and completely in a short period of time. The component of time is of great importance when dealing with an emergent situation with a client or potential client.

The service providers also thought that having a choice of approaches to the information is valuable depending on the users' needs, style of learning, and time constraints. They see **Mary's Story** as a good tool to sit down with a client and let her read the story and then find the information that suits her particular needs. The participants said that the story was a good composite of the mainstream women they deal with at their shelters. The women stated that the narrative form of the story encourages an abused woman to read about someone else, but still be able to see how this applies to her own situation. These comments reinforced the project team's understanding that an abused woman must recognize that her situation is abusive and that she is not alone in her situation.

The research participants feel that **It's Your Story** can be used primarily as a training tool for staff (volunteer and practicum students) as well as funders in order for them to practice skills in dealing with women and their particular situations. The participants confirmed the team's perception that this approach may be time-consuming, but provides the user with a different perspective on the abusive situation in which they find themselves. Once the participants became more adept at using the site and the mouse, they engaged in the interactive components and talked directly to the computer as if they were talking to a person.

Overall, the participants expressed very positive and enthusiastic comments about the site and its continued use for information. A follow-up study might determine whether the women are actually using the site and the computer generally in their work and in their private lives.

Women and Learning

The training and evaluation sessions were set up as group learning and debriefing sessions. The women were with colleagues and friends with whom they felt comfortable. They appeared to enjoy learning in a group as they took turns at the computer and keyboard, discussing issues and answers before they entered their thoughts at the site. In

some instances, the information was new and the women were interested in pursuing the information to increase their knowledge at that moment. We found that during the sessions we were not only training women to use the computer, but we were assisting the service providers in immediately augmenting information they needed in their jobs.

We were also encouraged to see immediate results for one abused woman. While we were training some of the abused women, a client was able to name an incident in her life that was considered abusive and not acceptable in an intimate relationship. The woman had been locked in the basement of her house for several days prior to leaving her partner. Her partner would only let her out to use the washroom facilities, which were on the main floor of the house. She did not realize that this action had a name or that it was abusive. The definition of "confinement" was a revelation to her and she now knew what it meant and that she would not allow it to happen again. The site confirmed that she should not be subjected to this type of behaviour and that she was right in her decision to leave her abuser even though her own family members were not supportive.

We were also encouraged to see that the women took time to reflect on their experiences and the information that was presented to them. Reflection played an important role in the learning. It appears to assist in the learning and gives time for the learner to engage with the information to transform it into her own knowledge. The abused women would stop after reading some of the information and discuss among themselves their personal situations as related to the content on the screen. They then would support each other and discuss what could help the situation based on their personal experiences and their newly acquired knowledge about abuse.

The naming of a situation in an abusive relationship is an important part of dealing with abuse. By understanding the implications of the law within her own setting and experience, the user was able to view a different path. This is one of the outcomes for which the team had hoped.

External Evaluation

By Katy Campbell, PHD

VIOLET: Learning on the Net was designed with an external evaluation component to complement the group qualitative study. During the development of the proposal, the project leader envisioned formative evaluation by an external evaluator to provide the project with an objective assessment. The project team discussed options with the external evaluator, Dr. Katy Campbell, at the beginning of the project when developing the research components.

The purpose of an external evaluation was to provide the project with additional data especially in the area of message and interface design. The project team is cognizant that the stress surrounding a shelter is not conducive to data gathering and that an external evaluation conducted in a more "peaceful" environment could provide insights less influenced by stress. Dr. Campbell has 16 years of instructional design experience and has published extensively in the area of instructional design, gender and technology, and evaluation. Dr. Campbell evaluated VIOLET using two stages: expert analysis and usability testing.

EXCERPT FROM VIOLET: LEARNING ON THE NET, EXTERNAL EVALUATOR'S REPORT, SEPTEMBER 1, 1999 SUBMITTED BY KATY CAMPBELL, PhD

In this report, emphasis was placed on the learning design of the web site. The results of this evaluation will inform both learning design revisions and future design plans. For this site, an evaluation matrix was developed that integrated work in the evaluation of learning or instructional design, interactivity, message design, and interface and navigation design. That is, the materials were examined for the "rightness of fit" of the design to intended outcomes; the information/data elements incorporated to support learning; the cognitive and metacognitive skills and strategies included; the learner control and support mechanisms provided; the degree of interactivity allowed; and the tools available to the learner for navigation and use of the site. Each of these components of effective instructional design is evaluated separately, although in reality the whole is always greater than the sum of its parts for interactive learning experiences.

Expert Analysis

An expert analysis includes the four elements of instructional, message, interface, and interactivity design, although in this stage the site is evaluated outside of the learning context. That is, the expert usually takes a theoretical approach to the instructional design and does not comment on the content or the implementation of the site with target learners. The design expert is rarely a content or subject matter expert as well.

For this analysis I have combined the elements of instructional and interactivity design as, in practice, interactivity can relate either to active learning principles or to interface design. Quite often, as noted above, an interactive interface is integral to the active learning experience.

Instructional Design

VIOLET is a combination of three different instructional/informational approaches, from a passive information gathering experience (**Just the Facts**) to a role play/simulated experience (**It's Your Story**) that requires a higher level of cognitive engagement. Including all three strategies in one site encourages users to explore different ways of understanding and dealing with their abusive

situations, allowing them to remain detached, if desired, at one end. The users can presumably traverse the learning terrain at a comfortable level of engagement even in one sitting.

The version of VIOLET under examination is designed to be used by abused women and workers in shelters. A number of assumptions were made about the learning context: the users would have diverse educational backgrounds and learning style preferences; users would work on a computer station at the shelter which suggests varying degrees of privacy; Internet access would be by dial-up modem; neither the women nor the workers were expected to be experienced computer or Internet users; the users would be under a great deal of stress; the learning environment would not be free of distractions; and the time available to use the resources would be constrained both in the short and long terms.

These constraints suggest specific instructional design strategies. The following are a small subset of the strategies that could be appropriate. Strategies already employed are identified with a √.

Constraint	Strategy
Diverse learners	Multiple representations of content
	√Low readability score (5-8)
	√Learner options
	√Minimal cognitive load
Work station is in public space	Headphones necessary if hypermedia used
	√Activities should not require intense concentration
	√Users may work with partners
	√Minimal use of large images or media
Dial-up access to Internet	Users need to be aware of load times
	"Cover" activities during loading
	√Navigation directions
Inexperienced users	√Scaffolding
	Manuals, help available
	Worked examples, models
	√Robust design elements
No technical assistance	Ways to recover made apparent
	Clear directions written for novices

	√Short chunks of information
	Activities designed for success
High stress	
	No jargon
	√Minimal use of technological "frills"
	Headphones

Distracting environment	√Highly engaging material and elements
	Cooperative activities, child-oriented or family tasks
	√Contained activities
Short working bursts	√Reduced information load
	Annotations
	√Shallow site architecture

VIOLET has a very simple architecture that is characterized as a hierarchical tree structure. This means that topics are organized under main and sub-headings. As the learner works down the tree, more detail is available. This is an intuitive architecture for literate adults (in the Western world), as it resembles a typical textbook or reference book. Main topics are chapter headings with sections contained within. The reader understands how information is related (most important topics at the top…) and expects to "turn the page" to proceed through the text. This architecture is particularly apparent in the **Just the Facts** "chapter".

Because adult learners may find random, associative environments confounding, tree architecture is very appropriate in this culture. Within a Web site such as VIOLET, however, there is so much information and it is so well embedded that the learners may be concerned that they have not found it all and that they may be missing essential facts. Also, the tree is quite deep, so those learners may lose their sense of the relationships of the depth to which they have traveled. In this case, the learners need to be given some spatial sense of the site architecture, where they are in it at any given time, how to return to an originating or main page, how much information remains to be obtained, and so on. Consequently, the site would be improved with the addition of a navigable site map and orientation functions (where am I? How do I get to…?). With more than one encounter, learners will also want to resume where they left off, retrieve important or remembered information, etc. In a shelter environment, this could be accomplished if the station had a hard drive on which learners could keep individual folders, and tools that permitted them to bookmark, save, or annotate information. A site index and a simple search engine would also help them locate specific information very quickly, as after the first few uses the learners are likely to be beyond a "browse" mode.

The learning expectation for **Just the Facts** is low level in cognitive terms—that is, didactic information is provided in an organized structure. Learners are not expected to do more than browse and read and become aware of issues pertaining to their situations. The design matches this intended outcome, although navigation is problematic in some cases.

However, the expectations can be increased in a number of ways. For example, the learners could demonstrate comprehension, application, or higher levels of cognitive reasoning with the use of directed, embedded questions, or the use of other cognitive tools. For example, in the section dealing with escape and safety plans, the learner could be asked to pause and make a quick list of items she would take with her if she left. Or, she could be encouraged to think of three safe places to go immediately. These active learning strategies can be embedded within the text, used as advance organizers, be available in marginalia, or in a number of other ways. One way to help the site users emerge with an actual product is to provide blank paper and writing implements at all times by the workstation.

This site contains so much useful information that it will be difficult for women to be able to identify and recall what they need. In other words, they need to be able to organize the information in a process of concept learning. Part of this process is scaffolded for them by the architecture of this section, but they must also take an active role in organizing information for themselves. Even in an informational section like this, women could be provided with a set of problems or examples that illustrated different concerns, issues, and options; and asked to mentally identify the main problems, or take the role of a friend and suggest a strategy, etc.

If the intent is for women to personalize this information, the tone must be less didactic and more invitational, and the process should be less passive. For example, embedded questions such as "Does your child exhibit any of these symptoms?" or "Have you found yourself thinking this?" encourage learners to apply the new information to their own schemata and manipulate the knowledge into new mental models of abuse and its personal meaning.

The second "chapter," **Mary's Story** moves the learner along a more active learning continuum. In this section, the learner becomes a participatory reader as she is invited to compare Mary's situation to her own. The design becomes more situated at this point.

A narrative approach for this audience is a very powerful instructional strategy. Personal narrative, or the sharing of personal experiences, in constructivist terms, requires participants to develop deep, rather than surface, understandings of the situation. Participants must recall and describe personal experiences by constructing personal meaning of and from them. These understandings are shared with others and become part of a growing knowledge base for others to both access and to which they may contribute. The social interaction of sharing reveals multiple understandings, or perspectives, of the domain and requires participants to "restory" their own lives with a changed or transformed comprehension.

In **Mary's Story**, the first phase of this iterative process is provided as women read along with Mary and discover similarities in their own lives. The process could be elaborated significantly if the reader was encouraged to then tell her own story in response. This could be accomplished off-line, in a group setting or through writing; in a cooperative setting where two women worked together (two clients, or a client and a shelter worker or counsellor); or eventually on-line in a virtual community. The inclusion of client stories involves the construction of a knowledge base that could then be indexed and is available for others to retrieve. Telling and writing are cognitive strategies, as they require organization and annotation, increasing the levels of deep processing. There are also many opportunities to include the stories of other characters in abusive situations, such as family, friends, police, shelter workers, etc. These stories could use different media, situations, and contexts; and reflect complex cases in which actions, outcomes, or ethics aren't clear. All stories are excellent anchors for problem-solving.

As with **Just the Facts**, **Mary's Story** could be extended with embedded questions that helped readers relate the story to their own contexts. An example of this task involves discrimination: "Is this an example of abuse?" or "Which example reflects psychological abuse?" These probes or questions could occur in the story or outside of the story, but their presence encourages readers to drill down into and challenge their understanding of abuse on a personal level. At the same time, readers "stay safe" as it is Mary sharing her story.

Readers are given the opportunity of drilling down into issues raised in the story by following embedded links. These links extend the story's meaning, but their presence in the story is a distraction, since the words are a different colour and signify a required action. A reader's tendency is to follow each link as it occurs, which breaks the rhythm of reading and meaning, especially if the link occurs within a sentence rather than at the end. It is quite difficult to return to one's place in the story and maintain continuity, particularly for readers who prefer styles different than verbal learners, or who have difficulty for reading large blocks of text. A better strategy would be to remove the links from their embedded context and place them outside the story in marginalia, in a "key concepts" box, or in a list at the end of the story. A more interactive strategy

would be a reader query, similar to a search engine, in which key words could be used as locators.

It's Your Story attempts to involve both learners and shelter workers in a simulated problem-solving activity and, as such, holds the most promise for encouraging learning that might lead to transformative action. However, the purpose of the activity is not made clear to the learner or user. The adult learner, who is very task-oriented, will ask herself, "Why should I do this? What will I learn?" Making the intended learning outcomes explicit motivates the adult learner, who can then make informed choices about the activity. As well, the learner is able to assess her own learning if she recognizes the outcome.

It's Your Story would benefit from the use of mediated feedback. For example, when the rankings are submitted, the choices should be explicated. It is not clear if the expert's ranking is the only right one, but an explanation of why the items are ordered as they are would provide an additional opportunity for learning. The learner would also benefit from seeing their rankings beside that of the expert's accompanied by feedback. As is, the impression is that there is one right answer when the learning experience is richer and more challenging when some degree of ambiguity is introduced.

Message Design

As VIOLET was designed for a range of delivery environments, the decision to make it heavily text-based was practical. Computers in shelters will likely have dial-up access, in which case the load times must be kept to a minimum. The use of media such as graphical images, animation, and video, while desirable from a diversity standpoint, might require frustratingly lengthy waits for screens to refresh. The use of text also circumvents plug-ins and other applications that require installation (i.e., expertise and time).

Text-based sites are appropriate for some purposes, including reference sites, but there are trade-offs in terms of learners' strengths and preferences.

For example, verbal learners are comfortable with text, whereas visual, auditory, and tactile-kinesthetic learners are not. Text on a computer screen is quite difficult to read, given the different light source, screen refresh rates, and so on. Text imposes an additional cognitive burden on learners with reading challenges and render a site exclusive (to the literate, successful readers, the sighted, etc.). In general, an all-text site is not very effective.

However, text has advantages. Text can be evocative, authoritative, easily interpreted, manipulable, and a recognizable interface. Text can be made quite flexible by including learner options such as print capability, copy/paste/annotate tools, and so on. The readability score of various screens in the site ranged from 4.4 to 7.1, which is very acceptable for this audience. If sentences contain clauses, they should be simple; use "and" instead of semi-colons. Better yet, sentence construction should be simple and active.

When possible, however, information should be made available in many different formats or representations. When options are presented, the learner is then able to retrieve information in a preferred perceptual or cognitive modality, or can combine different representations. Considerable evidence exists that graphical information is retained more readily than textual information. Apparently, this is because a picture can be processed as a single entity so the limitation of the number of items that memory can handle does not apply. Pictures significantly help the learning of text that is displayed with them, but when the text is not directly related to the graphic, no benefit is apparent. In this site, there were a number of places in the site where the learner could have benefited from multiple representations without jeopardizing speed or access.

For example, very simple graphical images or symbols, placed in the margins, can be used to represent ideas for those with language or reading difficulties. Globally recognized images include a Red Cross, for example, which could be used to indicate emergency care. A list of

shelters in Alberta could be accessed through a map of Alberta interface, which would locate a woman's nearest shelter. Charts, lists, and graphs are excellent ways to represent information to be compared or discriminated and aid in concept learning. Real artifacts such as passports or bankcards could also be included without too much danger (functionally). The inclusion of these elements would substantially extend access to the site.

Although there were good reasons for using text, there is too much text on each page and not enough use of white space as a design element. Many paragraphs can be broken down into several, smaller paragraphs, or bulleted lists, or other visual representations of data as noted above. The use of headings and subheadings were very helpful here, although too many different font types and styles can be distracting. As the visual design of the site was very simple and subdued, colour could have been used to effect to indicate informational relationships (and italics is a very poor choice for emphasis on-line). If there is a large amount of text, the reader can be expected to want to print the screen, as text is more easily read on paper. This function could be built into the screen in addition to the printer icon available on the browser toolbar, which may not be recognized by novice users.

Text-dense pages are not highly engaging, although the adult learner is used to text conventions. The designers did not break these conventions. In terms of visual design, though, the choice of font type and size should be reconsidered. Sans serif fonts read better onscreen, and 14-point text is desirable as many users will not be able to set different display preferences.

In terms of language, it is evident that different authors were involved in creating the text. The language varies from passive to active voice (active voice is better), from the impersonal third person to the more personal first person. In one small section the reader is referred to as "you," "the victim," "she," and "the woman". An editor, working with the designers, should choose one convention, aligned to intended outcomes, and bring the entire site into compliance.

Specialized vocabulary is mostly avoided, except where it is essential to give learners the language tools they need to use when seeking assistance. A glossary would be an excellent extension.

Interface Design

The interface is very simple and conventional, as noted. Although the site seems shallow (enough), the Rule of Three should be applied. That is, the number of clicks it takes to return should be three or less, indicating a depth of three layers (3-5 is acceptable).

There <u>are</u> a number of assumptions made in the interface design of which the authors should be aware. Navigation is minimalist, but the user is not told how to navigate, for example, to go "Back". The result is that a followed link may strand the reader, who wishes to return immediately to her originating page. When a link is made, it should be easy to get back to where the link was made. For example, "peace bond" in "You can apply for a peace bond" (/info/genj-3.htm) links to http://www.violetnet.org/info/peace.htm, and there is no apparent return to previous page.

Conventions such as "Home" are never explained. These problems are easily resolved with the addition of simple directions and/or a help screen.

Several interface problems need further thought, however. For example, a novice user may not be able to line up her cursor to make a link. Larger targets would be helpful. In the FAQs section, for instance, a very large question number could be the target instead of the whole sentence. Spacing at 1 1/2 or double spacing would also help eliminate the frustration of missing the link with the cursor.

A major interface problem occurs in **It's Your Story** in the ranking activity. The interface is very difficult, requiring the user to pull down a menu (even recognize a pull-down menu in the first instance), keep the menu pulled down while scrolling up and down the numbers, then holding

down and releasing the mouse button on the highlighted number. Why not permit the user to enter the number through the keyboard? Once accomplished, the ranking is also difficult to revise for the novice.

Scrolling text may be a problem for novice users, as well. The reader must first recognize that there is more text available and then be able to use the scroll bar. Many users will not be able to do this and are consequently stuck, without knowing how to advance the screen or make another link (which is contained in a box at the bottom of the screen). The use of the TOP arrow helps, but a similar device could be used to get to the bottom of the page (DOWN). The TOP arrow should also be repeated in the middle of the page. Again, navigation is a learned skill and needs to be explained and scaffolded as do the learning activities.

Generally, the interface is very consistent and transparent.

Usability Testing

In this phase of this project, VIOLET was designed to be tested at the site of first use, shelters for abused women. A number of assumptions guided the design of the formative evaluation research:

1. Women may not be comfortable using computer technology for information gathering and/or learning. Two decades of research related to women and information technology has revealed barriers in access, understanding, design, attitude, and achievement.

2. Due to historical and possibly gender-related factors, women may approach technology with forms of technophobia and stress.

3. Abused women and service providers are already under intense pressure and stress. This stress may interact with the stress of encountering computer technology and magnify negative attitudes or effects.

4. Since shelters are meant to be temporary refuges the abuse women clientele are not likely to be able to become comfortable and proficient at using the Internet in a short time. In addition, uninterrupted time spent on the Internet in the shelter environment is unlikely.

However, VIOLET is also designed to be used by women in abusive relationships who are not currently in a shelter environment. These women may access VIOLET from their homes; community centres; public facilities such as schools and libraries; and in places women and children regularly use, such as doctors' offices and grocery stores. Since the pilot-testing phase of VIOLET in the spring of 1999 focused on the shelter environment, a second usability test was carried out on a small group representative of the second group of end users—five women who were not in shelters. This group was chosen for their representative diversity in terms of age, education, socioeconomic status, and access to and comfort with technology, The intent of the usability test with this group was chiefly design-oriented: they were asked to comment on interface issues such as navigability; visual design issues such as choice of colours; and information design issues such as icon selection, readability level, and so on. It should be noted that although at least two of the women in this group are known by the evaluator to be in abusive relationships, this was not the criterion on which their participation was solicited.

The usability group consisted of the following profiles:

> ? N, a 70-year-old woman, with no experience with the Internet. She is, however, aware of the Internet, has observed her grandchild playing with educational software, and has had a little experience using a keyboard and a mouse. N has a rural, farm background, did not finish high school, worked for about 10 years outside the home (in her late forties-fifties), and is married to an alcoholic man.

?   M, a 46-year-old woman with three adolescent children. M is recently (acrimoniously) divorced from a verbally abusive partner. She has an undergraduate degree in teaching, but taught for three years until her first child was born and did not return until her third child was in school. At that time, and since, she has accepted only temporary relief assignments. She is currently "recovering" and "exploring options" as she received an adequate financial settlement from her former partner. She has never used a computer for any purpose.

?   A, a 38-year-old professional woman with a graduate degree who manages a human resource division in a large organization. A has extensive experience with productivity applications and uses email quite comfortably. She has occasionally used the World Wide Web in the course of her work. A also works with adult literacy programs. She lives in a small community outside of a large urban centre.

?   • J, a 40-year-old single mother, with a pre-school aged child. J is self-employed and financially independent. She uses a computerized inventory and billing system in her highly successful business. J has a post-graduate degree in a scientific field.

?   • C, a 20-year-old woman, in her second year of university, who uses the Internet daily both to communicate with her friends, and for information purposes. For example, she regularly uses the Web for research for class assignments, is familiar with e-commerce, and visits entertainment and news sites daily. C is not currently in a committed relationship.

Usability Procedure

The evaluator used a formative evaluation strategy known as a *talk-aloud*. In this procedure, the evaluator works with an individual participant and invites her to talk-through the experience of using the product, while closely observing and noting her reactions to the site. For example, the participant is asked to describe, step-by-step, how she knows how to navigate from one section to another. At the same time, the evaluator notes her eye movements, facial expressions that suggest confusion or frustration, time spent making a decision, etc. If, as is inevitable, the participant lapses into prolonged silence, the evaluator asks questions designed to probe for reasons for actions, or non-actions. For example, if the participant passes the cursor over a link several times but takes no action for several minutes, the evaluator might ask her if she is trying to decide where to go next. The participant might respond, "Yes, but I'm not sure what is at this link," the evaluator could ask if she knows how to return to the home page, or bookmark a link, or what would help her make a decision, or if the language is unclear, and so on.

The talk-aloud is a difficult and time-consuming strategy as it is used with one participant at a time; often takes well over an hour; requires the evaluator to anticipate questions and difficulties and to ask non-leading questions (but to nevertheless elicit meaningful information); and is stressful for the participant who must employ a metacognitive strategy (thinking about their own thinking). The strategy is not appropriate for participants who have difficulties articulating their thoughts, for example, very young children.

Results of Usability Testing

	Principle	*Comments*	*Recommendations*
	content presentation	not sure how long someone could spend at one time, and whether the amount of information is right	Dense text reduces the time learners will spend in one sitting as reading onscreen is quite fatiguing. One guideline is a 15-minute session for this type of work. Pilot testing will better indicate appropriate chunking.
Instructional design		assumption that action against spouse is desirable (what if you just want to make up with him?)	Is this a desirable option at this point? If so, needs to be included.
		information couldn't be summarized after 20 minutes	Too much information with no opportunities for practice. Employ active learning strategies such as discrimination exercises, embedded questions, etc.
		Mary's Story (**MS**) fits	All users were of the dominant culture. Needs further testing.
	match to intended outcomes	**Just the Facts** (**JTF**) allowed some distance, privacy, detachment	
		Web platform allows privacy	
		many women won't have access	This is an issue to be addressed in later stages when VIOLET is disseminated into the communities.

		how will abused women know this is here?	Awareness can be increased in number of ways, under discussion for later stages.
		"I wouldn't do any of these things first, I'd go to a friend for advice…"	Is this appropriate? If so, build into choices.
	support for learning needs	not all emotional options are available	Focus groups during pilot testing might elaborate on this.
		"Why do I need to know what the counsellor would do?" (**It's Your Story (IYS)**)	The outcomes/purpose for this section are not made explicit, or seem inauthentic.
	information manipulation	"The dragging thing takes too much time" (ordering in **IYS**)	Difficult interface, consider other options. What is intended outcome?
		purpose for activity in **IYS** not clear	See above

	Principle	Comments	Recommendations
	support for cognitive strategies	Not noted	See expert analysis
	information skills practice	Not noted	Include practice and synthesis activities.
	feedback	"why is this #x?" (**IYS**).	Include mediated feedback
	control with advisement	**IYS** requires too much commitment	Introduction could estimate time required and make learning explicit
	program architecture	**JTF** was first choice because: 1st on menu, quickest to use, most straightforward	The sequencing seems ideal
Message design	data elements	too much text for those with reading difficulties	Include different data elements. For example, pictures showing forms of abuse was one suggestion.
		text reduced load time	Site loads quickly now
		use of text makes it seem serious	Text is appropriate data element, although it limits use of site
		key metaphor is "cheesy," didn't recognize keyhole or meaning taken together	Metaphors are culturally embedded. May need to be explained.
	readability	seems straightforward	Plain language used, although tense and point of view is inconsistent

		likes point and question format because "I can stay detached," "Don't have to admit it's me"	
		questions are not seen as navigational devices	Redesign or include directions for use
	control of options	anxiety about choosing a link (what will happen?)	Typical of adults who are afraid of getting lost. Include a site map and obvious way to return to page
		wanted a search engine	Include a simple search engine and an index
		following embedded links in **MS** disrupts storyline	Although directions suggest following links later, tendency to make links as encountered. Since we suggest following links after reading the story, why not move them out of the story entirely, but keep them related?

	Principle	Comments	Recommendations
	visual design	type is too small	Font size should not exceed 14 points (too much screen room for little gain in comprehension). Make print option available.
		simple, not too many frills	
		each page was contained, could see at a glance what was there	
		Large, bold headings were excellent	
		colour (of embedded links) is distracting	Move links out of text
	language	words too hard ("pertinent," "representation")	Readability level was appropriate. Include a glossary
		tone was direct, not too pushy	
		Sometimes first person, sometimes third; was not consistent	Edit
	inclusivity	In **MS** you can see someone else's problem ("I'm not alone")	
		Mary as a name is too WASP	This site may currently reflect the dominant culture. Assess in pilot and focus groups
	content	"You don't have to admit that Mary is you"	
		contacting police is not logical (**MS**)	??
		MS is realistic	See comments

	Principle	Comments	Recommendations
Interface design	Consistency	liked menus at bottom and side	Add menus to top of screen as well
		once cursor (into pointing finger) explained, was able to use	Too many assumptions about computer literacy. Plan orientation sessions or include help screens or explicit directions.
	Progression	reorder categories of information to reflect those in **IYS**	Didn't check this
		how to read story directions helped (**MS**)	Include directions everywhere!
	Predictability	TOP arrow very helpful	Use in other locations, include a DOWN arrow
		"Why did the keyhole change colour? Did it do that before?"	If using, make colour cues explicit
		didn't understand "Back". Was worried about following links in case she couldn't return	See comments above about orientation to Internet/computer use
		didn't understand word or idea of "linkages"	Make explicit
		missed target when clicking	Increase target size with use of images, large fonts, etc.
		ordering activity (**IYS**) difficult to "figure out"	Needs more direction, a worked example, feedback
		would rather type in numbers (**IYS**)	Make optional

	Principle	Comments	Recommendations
	Natural constraints	scrolling text a problem for novices: knowing there was more text plus how to scroll down	Orientation, examples, explicit directions
		dialogue box when cursor held down too long was unexpected	Can this be eliminated?
		clicking outside Netscape window had unexpected result; didn't know how to get back in	These "errors" are very stressful and need to be anticipated by orientations and help
	visibility	menus always available	
		must know the link convention to use	See comments above
	transparency	no sense of structure of site	Include a site map
		homepage didn't help me get started	Perhaps this needs more introduction
		wasn't clear if 1 or 10 was higher priority (**IYS**)	Refine directions
	immediate feedback	**MS** took too long to load	Tried several times afterwards and it was fine. Warn users about load times so they don't panic
		wanted to compare ranking side-by-side with expert's ranking	Do this
		Wanted explanation of expert's ranking	Do this
	learner-controlled pace	wouldn't follow all the links, too much there	Annotate the links so users can make good choices
		would follow all the links so nothing was missed	As above
	appropriateness	assumes knowledge of Web conventions	Orientations, etc.

	Principle	Comments	Recommendations
	Navigability	very simple navigation	
		TOP arrow very helpful	
		Would have liked a search engine	
Interactivity design		**IYS** was too much work	This section needs re-design, outcomes must be made clear and seem relevant and worth time spent on activity
		JTF didn't expect me to do anything	Include more active learning strategies as suggested throughout.

Conclusions

There were three stages of learning design assessment for VIOLET: a group qualitative study, expert analysis, and usability testing. The assessment process involved abused women in the shelter, shelter workers, community workers, adult women, and an instructional design/evaluation expert. Together, these informants provided insights about design, content, and implementation of the current VIOLET site, and identified areas for possible revision.

Keeping in mind the mix of informants in the different stages of the evaluation, these insights need to be analyzed in the context of the rationale behind the site's design, its purpose, and intended use. The challenge of designing a web site is that the Web has the capabilities of customizing according to the identified needs and/or preferences of each user and of providing multiple choices to the users.

The project team and the readers must analyze the comments and recommendations of the participants within the sociopolitical context of this project. The project team members are involved in a collaborative relationship that includes Legal Studies Program at the University of Alberta, the Alberta Council of Women's Shelters, Status of Women Canada, the Office of Learning Technologies, the Alberta Law Foundation, and associations and individuals involved with the problem of spousal abuse at provincial and local levels. The latter partners include representatives from the community, the many agencies and service providers to abused women, and related provincial and municipal government departments. Together, this group will consider suggestions about content, interactivity, access, dissemination, instructional purposes, costs of recommended changes (among other issues), and their implications for continued development of the site.

The intended outcomes of VIOLET: Learning on the Net project, explored below, provide the framework for a synthesis of the findings of the project study and external evaluation.

- Develop an Internet-based learning service to support abused women, their service providers, and supporters.
- Provide learning opportunities in the area of relevant legal information.
- Develop an on-line community for support and sharing of experience and information.
- Raise awareness of an increasingly knowledge-based economy and society.
- Introduce and enable women to work with Internet technology.

Develop an Internet-based learning service to support abused women and their service providers

The existing VIOLET web site is the first step in developing an Internet-based learning service for abused women and their service providers. Knowing that spousal abuse is not a topic that a user would choose to casually learn about, the site attempts to give the user three different choices as reflected in three approaches. As discussed earlier, the site is to service users in a non-formal learning setting. The three approaches reflect three different knowledge structures. The intent is for those who do not have a knowledge structure to adapt one or more of the structures to "store" the information acquired and have this information incorporated into her overall knowledge structure.

Each of the three approaches—**Just the Facts**, **Mary's Story**, and **It's Your Story**—contains similar information presented in a different context. The content of **Just the Facts** was gathered first since it acts as the research base. It provides an amazingly comprehensive resource base for legal, economic, and community support information for abused women and their supporters. The design of this approach supports rapid and straightforward location and retrieval of information pertaining to spousal abuse. The interface reflects a textbook metaphor, familiar to all literate adults in this culture. Information is organized in main and sub-topics, by the commonly asked questions or concerns of women in this situation, and provides facts in a simple, non-value-laden language.

The informants, including the evaluation expert, find the level and tone of language appropriate. They are impressed with the wealth of relevant information available under this approach. Realizing that there is a vast amount of information, they are pleased to find that related information is organized in one file, i.e., they can print one complete topic without having to click to different pages. This confirms the design team's intent to have all the related information under one topic. This intent rose from our experience of sensing that the target audience might not have thought about all the relevant issues under one topic.

Mary's Story, the second approach on this site, provides a more personal, narrative approach to the information contained in the site. Users are asked to read a story typical of abuse and familiar to them. The intent of this approach is to enable the women to relate the story to their experience or to the experience of those they help. The informants found the story realistic and culturally appropriate. Informants in the group qualitative study asked for stories more appropriate for immigrant women and aboriginal women.

A number of them preferred this approach to the first as a way of obtaining information as they felt it was less formal and more reflective of their own experience. It was not designed for quick access to specific information. Recommendations include adding a search engine, index, and glossary, and placing the links at a different location than within the story line.

It's Your Story is the most interesting approach in terms of learning design, but also the least developed and therefore most difficult to use. This approach was designed to be the most intensive of the three approaches. The informants confirm this. The learning task is not transparent and the interface is problematic for most of the users. The design of the approach, however, reflects active learning strategies and a more learner-centred approach than the other two. Comments made by the users reflect their absorption once the actual task was discerned. As a learning activity is the basis of this approach, it is necessarily most time-consuming and will need supporting materials and probably a different approach to implementation.

The site is seen to be a useful teaching and self-assessment tool for service providers orienting new staff or volunteers. A number of informants suggest ways in which they can use the site as an anchor in group discussions and educational sessions. Several informants also see a use for VIOLET in family counselling—for partners, children, and other family members. This is an interesting direction in which VIOLET could contribute very effectively.

Overall, the site design accomplishes this intended outcome. All three approaches need revision based on the comments and suggestions by the informants. Specifically, **Mary's Story** and **It's Your Story** can be extended with the integration of additional cognitive tools and strategies.

Provide learning opportunities in the area of relevant legal information

Shelter and community workers and abused women all praise VIOLET for supporting their access to current, relevant legal information. Shelter workers, in particular, feel that VIOLET is an excellent complementary resource to which women in crisis can be directed and are pleased to be able to update their own understanding and access this information. In this context, they see VIOLET acting as a reference guide.

VIOLET is an extremely comprehensive resource. The designers note suggestions for additions and/or revisions and disclaimers to the specific content. Several informants emphasize that community needs and practices vary by geographic region, which needs to be taken into account. This has at least two major implications: (1) assured, flexible access to this resource will determine its effectiveness as an information and learning tool; and (2) a commitment to regular and timely maintenance of both information and site architecture is necessary.

The project team may want to consider the desirability and process for expanding VIOLET to serve other provinces and constituencies. This would require not only content expansion but also national partnerships and linkages, or VIOLET could become the national knowledge base in this area. This will be a social, economic, and political strategy.

Develop an on-line community for support and sharing of experience and information

Phase II of VIOLET has made in-roads by showing women that the technology is not too hard to use and that the project is concerned with confidentiality and their safety. This is essential in getting abused women mentally prepared to accept the use of the technology. Most of the informants commented on their appreciation of the story approach, and many were encouraged to share their own experiences as they worked together.

Phase III of VIOLET—VIOLETForum—has already begun. With funding from Status of Women Canada, the project team is working with community and shelter workers to explore the use of an on-line forum. Participants of the forum will be working on issues including safety and privacy, access and facilitation. Other questions relate to whom this knowledge base will be accessible to and for what purposes. Also, the project will explore how potential participants will be encouraged to contribute, or even be made aware that they might.

Raise awareness of knowledge-based economy and society

As a secondary outcome, the VIOLET project has undertaken a political task with far-reaching implications. At the local (shelter) level, the pilot participants were certainly exposed to a knowledge resource made possible only through the Internet. Whether this experience raised their awareness of an information society and knowledge-based economy could not be concluded from their comments, only assumed. This is an intriguing question for further research, however. Certainly, shelter workers raised this issue and saw great potential in using the site as a way to make women aware of basic skills needed for employment.

Introduce and enable women to work with Internet technology

The question of access is key in determining whether the women have been enabled to work with the technology. The settings of the participating shelters reflected some of the widely varying environments in which women may be exposed to the Internet. In the

ACWS member shelters, the Internet was freely available and use encouraged, while in others its use was restricted and supervised. The location of the workstations may reflect shelter values as much as physical and/or space constraints.

Several of the informants, both clients and workers, were novice computer users and found the experience of working with VIOLET at first intimidating and ultimately empowering. Both shelter workers and clients commented on their experiences with technology before participating in the pilot. There was a range of Internet and/or computer experience as observed in any typical group. Adult women have a unique set of experiences and beliefs to overcome with regard to learning technologies: the lack of self-esteem and self-efficacy in relation to technology was noted over and over by these informants.

For the most part, VIOLET was piloted with groups. This decision was mainly philosophical, but influenced by logistics. The project team, based on its leader's experience in training novice computer users, made a conscious decision to test the site with groups of women instead of individual women. Most of the informants, however, commented on the security and comfort of learning to use the computer in a group setting. Several emphasized their relief and surprise at the ease with which they were able to participate in a relatively short time. This suggests orienting users to computer use in cooperative groups, confirming the project team's assumption regarding women's preferred way of learning the technology.

VIOLET could be used as a starting point to orient women to use the technology. The project team has started to conduct orientation sessions for community workers to learn how to access VIOLET and VIOLETForum. We could collaborate with community organizations, police, and/or libraries to develop a range of training models to assist their staff and publics in using the VIOLET web site.

In summary, it is the opinion of the project team and the external evaluator that VIOLET: Learning on the Net accomplished its intended outcomes.

Future Directions

This project has given the project team time to review the literature on women and learning, technology and adult learning, and to further develop the site, test the site, and talk with women across the province. We have found many interesting and stimulating outcomes that address needs among women and in non-formal learning.

The group qualitative study and the external evaluation arrived at the same conclusion— that the project achieved its intended outcomes. Minor modifications are needed on the web site, but the project team is satisfied that the present web site represents a start. It will benefit from improvement in all areas including message, interface design, and possibly additional information. But the overall feedback from the participants has been very positive as stated in evaluative sections of this report.

Our study has shown that women may approach learning in a different way that encourages collaboration and uses information that is relevant to their lives. Reflection is another important component, as women tend to discuss their thoughts and feelings with other women sitting with them at the time. These elements may be important to consider in the design of programs where there is a diversity of learners and learning styles.

Due to the many societal factors previously discussed, women generally do not have the luxury of time to engage with the computer as a toy. Women see the computer as a tool and not something at which many hours would be spent "playing". This is an important design feature as well in order to ensure that the information presented is complete yet not so time-consuming as to dissuade women from attempting to learn and explore.

The computer initially intimidated the women and, therefore, consideration for the introduction of a technological learning tool should be given. If women tend to learn collaboratively, then every effort should be made to include this factor in the design. In using the Internet as a medium for learning and information exchange, it is important to remember this factor.

There are implications for non-formal learners and learning under stress. What are the information needs of learners who are under stress and what are the considerations for instructional design with these particular learner traits? These questions require more research as we may be dealing with learners who do not use words as part of their voice (silent learners). It is important, therefore, to consider different ways of presenting information to this specialized group of learners.

As the use of technology expands and more and more women are exposed to the computer, adult educators need to focus on the needs of the non-formal learner. The use of the Internet is opening up the learning horizons of those with access. Non-formal learning is an important part of adults' lives and will continue to be so in this age of

information and life-long learning. We need to explore different methods for engaging learners and for evaluating what it is that will supply them with the information and learning they require. The VIOLET project has shown us that our understanding of learning and the use of technology is evolving as we participate in these exciting lessons of learning.

The VIOLET project is far from complete. As the project team reflects on its experience and the experience of the women who have been introduced to VIOLET, many more questions have been raised, possibilities have been identified, and challenges have emerged. We have grouped them under four directions: immigrant women, further research, further development of **It's Your Story**, and development of an on-line community.

Web Site for Immigrant Women: RoseNet

One key question raised by the group qualitative study's participants is "are you developing a site for abused immigrant women?" The project team took on the challenge of developing a site for abused women. We have since received funding from the Alberta Human Rights Education Fund to develop a web site for abused immigrant women. Applying our experience from VIOLET, RoseNet is being developed using a participatory action research approach. We have met with a small group of practitioners experienced in working with immigrant women in the area of spousal abuse to inform them of and orient them to the technology and to discuss their informational and technological needs.

One of the original objectives of Phase II was to establish data for immigrant women suited to their learning styles. We were not able to develop that portion of the project in this current project; rather we have received funding to develop a site in conjunction with the immigrant community. There were, however, many unsolicited comments from each shelter in this study stating that they would like a site for immigrant women in order to understand their special concerns and needs. The service providers in the "mainstream" shelters expressed concern that they were not always fully aware of the special cultural, dietary, and religious aspects of their clients' lives. They are concerned that they cannot serve these clients to the best of their abilities.

As part of Phase II, we conducted a small group needs assessment study with one focus group of cultural brokers (Appendix D). These cultural brokers are the leaders in the community who have worked with immigrants in the area of family violence. They are in the process of organizing professionally. The findings of the focus group were that a web site with pertinent legal information should be developed in consultation with the immigrant community and cultural brokers. The web site will be developed with entry points that are relevant to the cultural needs of immigrant women. As well, the web site may include other legal information unique to the needs of immigrant women and links to existing web sites on the topic of spousal abuse.

Recognizing that there are strong barriers to accessing Internet technology, we have conducted four orientation sessions to VIOLET followed by an informal needs assessment through discussion for RoseNet. As a result of these meetings, the group chose the name RoseNet. We have now registered the domain name, RoseNet-ca. The site is under construction and can be viewed at www.rosenet-ca.org.

Further Research

This project is exploratory research in that Internet technology is an emerging technology and that most of the published research relates to formal and structured learning. This presents an exciting challenge for the project team. We are in a unique position to apply existing learning theories and practices and to pilot test the results. As we continue to explore this area of non-formal learning, our research can move in many different directions.

In consultation with our external evaluator, an experienced researcher in the area of women and learning and in instructional design, we came up with some possible directions. These directions pertain to the learning preferences of abused women and their service providers; the relationship of the users with Internet technology; the impact of this learning experience; effective client support; lessons learned in a collaborative project; implementation approaches; and ways of building, maintaining, and extending a knowledge base. A small sample of possible research questions is suggested below. This is just a taste of the richness of the learning, for all project contributors and participants, supported by VIOLET.

1. How do abused women and service providers approach information technology?

- What are the prior learning experiences?

- Are computers judged to provide a valuable and unique learning experience?

- What have they heard about the Internet that would influence their attitude towards VIOLET?

2. What learning approach do users prefer?

- Are users aware of their preferred learning styles and/or strengths?

- How do users describe their information-seeking strategy?

- Will abused women choose a different approach than, for example, a shelter worker? A volunteer?

- For which purposes will clients use the site? Which clients will use a specific approach, and why?

- How can the model support both individual and connected knowers?

3. Was the case-based approach effective?

- Why did users choose this model?

- Did it meet their information needs?

- Did the design meet the desired outcomes?

- Did learners know how to use this model?

- Did they identify with the cases?

- What forms of representation are preferred?

4. How can the information and learning needs of shelter workers be best supported?

1. Are users empowered by using VIOLET and, if so, how?

Further Development of It's Your Story

As indicated by the external evaluation and the qualitative group study, this approach is in its infancy. Suggestions for further development include description of the intent of this approach, indication of time required for completion, and explanation of the reasons behind the interactive activities. Although the project team had a clear vision for this approach, we were unable to fully develop and implement it. Instead, we worked within the constraints and were able to pilot the approach through two roles with two scenarios in each role.

If the user chooses the role of a shelter worker, she has a choice of selecting the scenario of receiving a telephone call or helping a woman who arrives at the shelter. If the user chooses the role of an abused woman, she has the choice of either making the telephone call or arriving at the shelter. The scenarios are well developed, but the interactive activities are very simple and do not provide feedback in the context of the answers provided by the user. The project team is aware that the technology could propel the activities and make the experience more useful and meaningful.

To further develop this approach, we need to develop a comprehensive database of information with indexed keywords and an expert system that can provide feedback and correct misinformation in response to a user's submission. This database needs to include more scenarios and stories that the system can draw from to provide meaningful feedback. The database needs to be dynamic so that women can add information on-line, have it reviewed by the site management team, and added to the database with short turnaround time. This continuing development requires both conceptual and technological development.

Imagine the possibility of a user taking on the role of an abused woman and being able to submit her story, then be prompted with questions that are relevant to her story. The scenario could ask questions requiring an answer or the system could answer her questions and she could confirm her knowledge or learn new knowledge. Once the

learning experts and the technical expert collaborate and develop a system capable of doing this, we will not only enrich **It's Your Story**, but we can also use the same technology to provide more options under **Mary's Story**. This will be the fulfillment of the ultimate capability of the technology, i.e., providing users with a multiplicity of choices.

With choices comes the need to provide guidance. For some users, having choices creates more stress. So the challenge for the project team will be to limit the number of choices so as not to increase the amount of stress already experienced by some users. Looking into the future, with more and more women getting on-line and using the technology, users will catch up with the technology and may be ready to handle more choices.

From a learning design point of view, we need to be analytical in matching technical capabilities with the needs of the learner. In any event, the sooner we explore this technology, the sooner we will be able to maximize its efficacy. We will then be prepared at the same time that the majority of women are.

Development of an On-Line Community of Women

The ultimate power of the Internet is connectivity—the ability to connect to anyone, anywhere, any place. Women are known to be connected knowers. There are numerous examples of women connecting and helping others connect on-line. The on-line document, Women's Activism at http://www.womenspace.ca/Campaign/Activism/activistways.html, discusses 40 activist uses of the Internet. These include taking part in party politics, organizing, publicizing, connecting groups and issues, enlarging an event, mentoring, building networks, and coordinating with off-line events.

The VIOLET project, through its function in building community capacity, has oriented some women in the use of the Web for seeking information and for communicating. These are reactive or responsive types of activities. The project team sees a need and logical progression for the women to create their own space to discuss common issues, to strengthen their existing network and build new networks, to share and develop needed information, and to develop a prominent voice. This process may take time to evolve, but it has begun.

The women who were introduced to VIOLET are beginning to see the possibility of connecting and talking to other women on-line. Informants in the group qualitative study indicate an interest in sharing stories and other information. The service providers talk about the possibility of sharing information and supporting each other in their work. The external evaluator suggests using an electronic space for women to share stories and support each other. VIOLET can play an important role in expanding the web site to include an electronic space created for these women and their advocates. This space will evolve and develop as more and more women get on-line and have reasons to participate.

As of 1 April 1999, Status of Women Canada has provided a small start-up grant for us to explore the use of an interactive space. VIOLETForum is designed for women to share experiences, to ask questions of volunteer lawyers and other experts, and to discuss new Alberta legislation *Protection Against Family Violence Act*. The women who use the electronic space regularly could eventually develop a prominent voice for women speaking on the issues of spousal abuse or violence against women. As the community develops, the group will determine its direction.

VIOLET has been an exciting and challenging experience for the project team. Having a web site with current legal information is a foundation for empowering women. As they gain a better understanding of the legal issues, they are prepared to speak out on other issues affecting them. These women may not be accustomed to speaking out in public. In a private electronic space where anonymity is possible, they can speak out and form a prominent public voice, after all.

The project team knows that this is only the beginning. VIOLET showed us and the women how Internet technology can be used for non-formal learning. It is only through on-going use and dialogue that women will learn to better use this technology for themselves.

Appendices

APPENDIX A
Pilot Study Questions
Violet Team Version

? **Background Information**

? Participants to introduce themselves and their current role and years of experience working with abused women.

? Participants to give experience with computers in years, variety and rate comfort with using a computer.

? Participants to give experience with using the Internet.

? Participants to list their expectations from session.

? **General Questions**

? What was your overall impression of the web site?

? Did you feel comfortable using the computer and learning with each other?

? What did you learn?

? Was there enough time to work through the three approaches?

? Which approach(es) did you use?

? **Navigation**

? Were you able to get around easily among the screens and approaches?

? Did you get lost and if so, where did you get lost?

? Were you able to get back on track?

? **Content**

? What did you think of the stories and dialogues?

? Were the questions and answers appropriate for the setting?

? Were there other questions that would be more appropriate?

? What other information should be added?

? Was the third approach (IYS) a good way of getting the information to you?

? In what setting or circumstances would you use approaches 1 to 3?

? Was the content realistic and easy to follow and to read?

? Was the context appropriate?

? Was there too much information for the two hours?

? Approach

? You were asked to fill in spaces and rank issues. Would you like more of this type of interaction?

? What did you think about being asked to rank issues and answer questions?

? Was this a useful exercise for you?

? Would it be a useful exercise for your clients?

? Would you like more or less participation on the screen?

? When would you use the third approach?

? Would you use the third approach professionally or personally?

? **Uses**

? How would you use this site: for information gathering or to renew your information?

? Would you recommend this site to others and who would they be?

? Can you see yourself using the site at the centre?

? Would you use this site with a client?

? Could you use the site for training and orientation of volunteers and others?

? Would you use a site to talk to each other electronically and to share stories etc. with each other?

? **Concluding Remarks**

? Do you think that abused women will use this site?

? Any additional comments or questions.

APPENDIX B
Research Plan

1.0 Research Plan

The following assumptions and conditions contribute to the planning and execution of the research plan.

1.1 Assumptions

Some women are not comfortable using the computer technology which may reduce interaction with the computer and ultimately the Internet. Some women may exhibit forms of technophobia or stress which are barriers to accessing the Internet.

Abused women and service providers in shelters are under intense emotional pressure and stress. Stress may influence interest in participating, numbers of participants, and time that may be available to participate in the research process. It may also affect the way in which information can be presented and retained. It is also noted that abused women in shelters are transient in nature as they do not spend large periods of time in the shelter before moving to second stage care or to private arrangements.   It is difficult, if not impossible to conduct follow-up debriefing sessions with the abused women concerning learning strategies.

Time commitment in attending training sessions is a factor for all participants. The number of service provider participants may be reduced due to workload demands and the transient nature of abused women may also reduce numbers of participants.

Many women do not see the Internet as a tool for learning and/or information gathering and may not be interested in participating. This assumption is based upon current research that suggests women face many barriers in adapting to and adopting technology for learning. Women may fear using the computer to access information for their situation.

Many women have limited or no access to the Internet based upon economic and social conditions. However, computers with Internet access are becoming more prevalent in governmental, municipal and community organizations thereby increasing accessibility.

The information at the VIOLET website is to be used in a non-formal learning setting. There may be differences in the ways in which the information is presented and retained in a non-formal environment.

1.2 Conditions of Research

A target of ten participants maximum and five participants minimum will be projected for each of the three categories: abused women in shelters, service providers in shelters and immigrant women**

**Please note that a web site for immigrant women is being developed within another project. The OLT project was not able to produce a site specifically for immigrant women at this time.

Cursory research will be conducted at the meeting of the shelter directors and/or volunteer board members to inform them of the impending research programme. A group discussion with 10 to 15 participants is anticipated at the introductory session as well as a short questionnaire. This session is intended to inform and promote the research process to the shelter directors.

The in-depth research will be conducted with the shelter providers, abused women, and immigrant women.

Due to the transient nature of abused women in shelters, it is difficult to assume a higher level of participation than five to seven province wide for this group.

Time commitment constraints for the service providers is also a factor for participation.

Mixed groups for training and assessment of service providers and service users will most likely be common given the restraints of time and transience of service users.

Using existing events to promote the research will be considered as well as formal written communication to all shelters.

2.0 Plan Development

2.1 Develop criteria to determine research participants.

Criteria will include:

- Number of women using shelter.

- Mix of large and small urban centres throughout province. Additional centers/organizations that deal with family violence but are not shelters will be added if time permits.

- Stability of shelter in terms of staff longevity and interest in participating.

- Centres should have computers with access to the Internet or willingness to install access within research time lines.

- Abused women who are interested in using the site.

2.2 Send introductory letter concerning research to shelter directors.

The letter will include the following information:

- VIOLET is conducting research concerning abused women, service providers and their use of the Internet to access legal information.

- A general invitation will be given to the service providers and abused women to volunteer in the research process. The letter will contain information concerning the process, the time commitment and that all participants will remain anonymous with no comment being attributed to any one participant or shelter.

- VIOLET will be providing training in accessing and using the Internet in order for participants to become familiar with the Internet.

- Upon completion of the training, participants will be asked to use the VIOLET site and make an assessment of their experience.

- Participants will be asked to evaluate the three approaches to the learning by answering questions and completing a short questionnaire (where suitable) concerning the approach that best suited their information needs.

- The training, site searching and group debriefing will take a maximum of three hours: one hour for Internet use training; two hours for site use and group debriefing. The group debriefing will consist of verbal discussions with a VIOLET representative and participants and a short informal questionnaire where applicable. It is estimated that the size of the group will range from four to fifteen participants

- The training and debriefing will take place between January, 1999 and March, 1999.

All participants will be informed that the findings of the research will be presented in a final report that will be published in academic journals.

2.3 Receive confirmations, select volunteers.

2.4 Establish pilot project organization for review. Contact pilot project participants by telephone to establish dates for process. Describe process to pilot participants.

The pilot project organization will be designated based upon enthusiasm for and time commitment to the research process. The organization will be located in a large urban centre.

Describe process and rationale of research plan to pilot group as follows:

- The Violet project has been established to explore the ways in which women can use the Internet to learn about the law pertaining to violence against women.

- This component of the research will seek to identify training needs for the women.

- The information will remain confidential and the participant may withdraw from the project at any time.

2.4 Contact and confirm dates for future participants

Inform participants of commitment requirements and expectations of researchers.

3.0 Needs Assessment

3.1 Detemine needs

- Determine level of expertise of participants with computer and the Internet.

- Determine if printed material required for training sessions or future reference.

8.0 Learning Approaches

4.1 Design three learning approaches for pilot testing.

Determine the three approaches to training and information dissemination.

- Approach # 1 - Information Listing - What is…..? (Using Existing Table of Contents)

- Approach #2 - Here is Mary's Story (using existing Mary's story on Web site)

- Approach #3 - What to do if….(using goal based approach)

(Later, the three approaches were named as follows: Approach #1 – Just the Facts; Approach #2 – Mary's Story; Approach #3 – It's Your Story.)

5.0 Training and Use

Internet training - minimum of two participants, maximum of five per computer.

Encourage small group discussions amongst participants during site use.

After using sites in time allotted, (approx. 2 hours to train and explore), form large group for discussion and debriefing. (Large denotes 8-15 per group in any one location)

5.1.a *Questions for large groups*

- Have you used the Internet before? Would you use the Internet (not necessarily this site) at a later date?

- Do you have easy Internet access at another location?
- Are you comfortable using a computer? Are you more comfortable using the computer now after this session?

- Which approach , Just the Facts, Mary's Story or It's Your Story did you use first?

- Was it organized easily for information retrieval?

- Did you look at all approaches? In what order did you review the approaches? Why did you not view all sites?

- Did you find the information that you needed? Was the information complete, useful and valuable to you? If not, what would you say was missing or would have made it easier for you to find the information?

- Was it easy for you to navigate or get around in the site? Yes, no and why?

- What do you remember from the approaches ?

5.2.b *Our Report Card* (Process evaluation)

- Will you go back to the site after the today and seek information? Why or why not?

- Would you recommend this site to a colleague, friend or client?

- If required, could we contact you at a later date to request clarification of your comments if needed?

-

6.0 Pilot Evaluation

6.1 Evaluate comments/information from pilot testing and incorporate changes for sites and/or training and debriefing sessions.

Review the research process for changes to data collection methods, questions used, and general methodology.

7.0 Delivery of Training- Remaining Participants

7.1 Train and evaluate remaining participants.

- Provide training and evaluation sessions with shelter participants that include large group debriefing. Large groups will consist of 8 to 15 participants.

- Gather information and questionnaires (where applicable) at each session. Large group sessions to be audiotaped for transcription.

- One-to one sessions where applicable, will also be audiotaped for transcription wherever possible.

8.0 Evaluation of Data

8.1 Review and evaluate data.

Determine themes, topics etc. and evaluate best learning strategy for groups of participants; abused women and service providers. Incorporate changes to VIOLET web site that assists users with the best learning strategies.

9.0 Implications of Research

In a non-formal learning environment, the project may give information concerning:

- workplace learning under stress.

- Design issues for women learners under stress while incorporating technology for learning.

- How women prefer to learn using the Internet.

- sense of the differences between face-to-face learning and a stressful on-line learning environment that uses technology.

- needs for continuing education for service providers and service users.

APPENDIX C
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APPENDIX D
Violet Project: Meeting With Cultural Brokers

October 30, 1998

Participants

Three women who have extensive experience in working with abused immigrant women from different ethnic backgrounds. These participating women are considered leaders in the area of spousal abuse, but are community members. Each of them came from a different country and has a different ethnic background.

Summary

There was general discussion about the need of a website for immigrant women. It was agreed that the immigrant community is ready to use the Internet. The language issue was discussed but no recommendation was made. It was discussed that for now, the leaders and workers are fluent in English and therefore it would be sufficient to have a site in English only. These three cultural brokers were then presented with the contents and approaches of the VIOLET website. Here are their suggestions.

General

- Instructions on how to used the Internet should be developed in plain language.
- Under Safety Plan, it should be included that women take their valuables, i.e., jewelry. Women should also be encouraged to keep a journal documenting the abuse. Encourage women to have a safety box with their personal documents.
- Under Custody section there should be a section including the procedure on how to take children out of the country. Answers to the following questions should be provided.

    1. Can I get custody of my children if I am sponsored?

    2. If I am not working can I get custody?

    3. Can I get custody if I can not speak the language?

- Under the section of Divorce, common law relationships should be discussed in terms of what the woman is entitled to. Divorce section should also explain that the only way to get a divorce is through the courts and although in some religions, a man can divorce his wife by saying the words, it does not apply under Canadian law.

?   Under the section of Legal Aid, include eligibility according to immigration status.

?   In the area of going to Court, address issues that the law is not the only solution. As well, outline the role of the worker in terms of preparation for court and the role of an interpreter. Include information about the differences between provincial court and Queen's Bench and information about the appeal process.

Specific Themes

Immigration Laws

The Site should provide a clear definition of the different status a person can have, i.e., Landed Immigrant, refugee status, no immigration status, and Canadian citizenship. Rights and entitlements should be included.

Deportation

Grounds for deportation should be outlined and explained. The site should provide answers to the following questions.

?   Can my husband deport me since he sponsored me?

?   Can I have my spouse deported since I was the one who sponsored him?

?   Can he be deported if he is charged with abusing me?

?   Can I be deported if his family sponsored me?

Sponsorship

The site should include information about what to do in case of sponsorship break-up. It should include information about access to services rights and obligations if you are sponsored. The site should provide information regarding the following questions.

?   What can I do if my spouse is abusing me and his family sponsored me?

?   What can I do if my spouse is abusing me and he sponsored me?

Refugee Status

What are the legal rights of refugees? The site should provide information about the services a woman is entitled to if she has refugee status. The following additional issues were suggested.

?   Schooling for children

?   Difficulties that may be encountered if you stopped in the US.

No Immigration Status

The site should provide information about rights and services that a person with no status is able to access. It can also include information regarding issues that may affect her application for status.

Case Scenario

A woman goes to talk to a worker in Changing Together. She has been referred by a friend. The woman has a daughter and is experiencing abuse by her husband. She is physically, emotionally, and financially abused. She has been sponsored by her husband. He does not allow her to work or go to school to learn English. He often threatens her with sending her back home; threatens her with deportation. The worker explains the role of the police and social assistance. The woman is fearful that she has nowhere to go since she has no money and is not aware of the free services available to her.

Article published in Women'Space

WOMEN'SPACE

VIOLET: Learning on the Net

www.violetnet.org

San San Sy, Kathleen Anderson, and Katy Campbell

> "I found information on wife abuse using the Internet, but it was mostly American."
>
> - a family violence outreach worker in Alberta

This worker may find what she needs at VIOLET: Law and Abused Women (www.violetnet.org), a Canadian web site designed to meet the legal and service information needs of abused women and their service providers in Alberta. The goal of the VIOLET web site is to be a plain language, woman-friendly, safe space on the Internet providing passive and interactive services for this audience.

The site is being developed and "tested" by the Legal Studies Program, University of Alberta, in collaboration with the Alberta Council of Women's Shelters and Alberta's shelters. This site, first developed in 1997, has evolved and will continue to evolve as we listen and incorporate users' comments and suggestions.

VIOLET web site

Currently, the site has three entry points reflecting three different learning styles. Each entry point leads the user to the legal knowledge she needs, using methods she chooses. Based on the theory that our knowledge is constructed through interaction with our environment, we have developed the VIOLET web site using learning design principles that let each user choose how to acquire information. Each entry point is based on a different learning approach.

- **Just the Facts** presents the legal information in a book-like fashion. This approach is very didactic and sequential. The information is presented as in a reference book rather than as problem-solving. This approach assumes that the user knows what she needs and is already familiar with the terminology. There is no interaction by the user to confirm her understanding of the information. Our

assumption is that this approach will be used as a quick reference by those who are familiar with the issues or don't want to take the time for interaction. For those with limited time, the information can be printed for future reference.

- **Mary's Story** takes the reader through a discovery of legal information as told through the story of an abused woman. We hope that this will help the user relate the story to her own experience, learning pertinent legal issues as she reads. Throughout the story, links are provided to legal information and the user can choose to link to it as Mary encounters it. All the links are retrieved in a familiar narrative interface. The user chooses when to link to the legal content and when to come back to Mary's story. The site architecture is obvious and easily accessible.

- **It's Your Story** uses web-based learning design to assist abused women and their service providers in reviewing or learning about the most pertinent legal information. This interactive approach allows the user to choose a role to learn about the law in the fictitious situation presented. During the process, she makes choices to interact with the information by answering questions and comparing her answers with the site's answer. This approach encourages reflection and seeks to assist abused women toward self-affirmation.

CONTINUING DEVELOPMENT

The VIOLET project has developed from its first conception as a web site with one approach—Just the Facts—to having two approaches—Just the Facts and Mary's Story. This site was first made possible through funding from the Status of Women and a contribution from the Legal Studies Program through its funding from the Alberta Law Foundation. At start-up in 1996, an advisory group expressed a need for legal information that could be accessed easily by abused women and their service providers. With the growth of the Internet, the advisory group thought this could be a place to have such legal information. As the project developed, we became interested in systematically applying learning design concepts by developing different approaches to facilitate learning by abused women and service providers. We were able to secure funding from the Office of Learning Technologies to explore how abused women and service providers use the Internet as a learning tool. Thus, we revised the first two approaches and added the third approach—It's Your Story.

Our next task was to observe and gather feedback from the women who use the site. We had our first "testing" of the site in early February 1999 in Edmonton, Alberta. We gave an introductory lesson about the Internet in order to train the participants in its use and then had the participants chose their entry point to the site. After several hours, we debriefed the learning session. We were pleased that our learning tool was greeted so positively and that this group of learners values this use of the Internet.

We will be conducting training in shelters in different areas of the province. During the training sessions, we'll gather comments and suggestions so that we can continue to revise and improve the site.

The Project Team

The team itself is guided by an advisory group and a core group of four women working part time who collectively have the skill set of working with family violence, women community development, web-based learning design, and feminist research. Additional members are added to include legal consultants, a web technical clerk, and web design experts.

The women on the team had many issues to consider as they worked collaboratively amongst themselves and with community leaders and members. We are trying to develop a positive relationship with the Internet in an informal learning environment among women under considerable stress . We are dealing with readers whose Internet knowledge may be limited and who don't think of using a computer to learn about the laws that affect them during this stressful time. We have interpreted the academic literature about adult learners, technology and women, and web-based learning design in light of our special conditions. We wanted to design learning tools that would encourage the user to construct knowledge in a safe and welcoming environment. Knowing that we are dealing with women under considerable pressure, the team discussed findings in the literature and on the Internet and fashioned a site that would also be self-affirming for the user. As a team, we reevaluated and reaffirmed our commitment to the ways in which women learn and how we might encourage participation in a cyberworld of learning and information.

We constructed our site as a community of women and we fostered the growth of our own community as we attempted to design tools that would foster community for women we didn't know. To put our belief into practice, the members of the core group have been posting their thoughts, reflections, comments, and discussion notes in a private discussion forum on the Internet. We believe that this record will provide us with insights for future development.

Soon, we will be sharing with you what we learned from the women at the shelters who used the web site and women who work in the area of family violence in Alberta; and we'll share how we interpreted the data. In March, we will be introducing graphic design for the site and giving it a formal launch. Stay tuned. In the meantime, check out our site. Your comments and suggestions are always welcome.

Prof. San San Sy   Kathleen Anderson   Dr. Katy Campbell
Sansan.sy@ualberta.ca   kja@ualberta.ca   katy.campbell@ualberta.ca

APPENDIX F
Submission To 1999 CAUCE
Program Award

CAUCE AWARD OF EXCELLENCE

VIOLET: Learning on the Net
(VIOLET is the acronym for Women, Violence, Law and the Net)

PROGRAM DEVELOPMENT

The growing number of learners with different learning needs presents a constant challenge to continuing education to develop and deliver appropriate programs. The increasing popularity of the Internet and growing acceptance of computers as universal appliances present opportunities for developing Internet-based continuing education programs. Internet technology has the capability of presenting and delivering programs that incorporate a variety of learning approaches to accommodate a variety of learning styles. To date, a major portion of the on-line learning in continuing education has been targeted to formal learners, that is, those learners who are registrants in a designated program and for whom the completion of the learning may result in some form of accreditation.

Community groups are realizing the potential of technology to deliver information to learners who may not be included in formal continuing education settings. As Internet use increases, understanding of the medium for learning and knowledge development is also increasing. VIOLET is an example of a project that developed from the collaboration of women in communities and the Legal Studies Program at the Faculty of Extension, University of Alberta. These collaborators are both interested in testing and providing Internet-based learning opportunities for women involved with family violence.

The purpose of VIOLET is to develop an Internet–based learning service to support abused women and their service providers, especially those women who are isolated psychologically or geographically. This service is to include the provision of :
- learning opportunities in the area of relevant legal information,
- on-line community for support and sharing of experience and information, and
- on going updates of legal information and community services.

The advisory committee consists of women leaders in the communities, the Executive Director of the Alberta Women's Shelters, lawyers, and the project leader from the Faculty of Extension. These women saw an opportunity to use the Internet for learning in an informal setting. The committee believes that a web site is a safe place for abused women and their service providers to learn legal information as well as to empower themselves while developing cognitive skills using the Internet. To facilitate the development of the project, the committee divided the project into four phases:

- **Phase 1 (1997/1998)** - develop and test a pilot web site at one (or more) women's shelters.

- **Phase 2 (1998/1999)** - expand the content of the site to address the needs of grass roots workers.

- **Phase 3 (1999/2000)** - continue to develop the site to include an interactive information service.

- **Phase 4** - review the service and reassess its structural and resource needs.

Before the idea of VIOLET crystallized, the committee members had identified enabling the women to work with Internet technology as a secondary purpose of the project. The group felt that women need to learn the technology in order to function in an increasingly knowledge-based economy and society. The fact that VIOLET is about law and family violence gives these women a reason to learn how to use the web. This will further expose them to other information on-line and bring them to a comfort level with the technology.

With these objectives in mind, the project team—consisting of a core of four members and other legal and technical members as well as community group advisors—distilled and incorporated theories of adult education, web based learning and instruction, and women's ways of knowing into a welcoming web site environment. The project takes the university to the community and provides a collaborative service of informal learning.

Program Implementation

To date, funding has been derived from four major sources: Status of Women Canada, Office of Learning Technologies, the Alberta Law Foundation through its operating grant, and the Faculty of Extension, University of Alberta.

Status of Women Canada provided financial assistance for Phase 1 (1997/1998) enabling the project to conduct a literature review, a needs analysis, a survey of the shelters' readiness for Internet, and to build the pilot web site. The survey revealed that although the shelters have computers, these computers are not generally located in a public area. The VIOLET project team worked with the Alberta Council of Women's Shelters to

secure funding from the Muttart Foundation to provide each of the 30 shelters in Alberta with a computer station dedicated to Internet use. Each of these computers has been placed in a publicly accessible area in a shelter. VIOLET was able, therefore, to test and gather feedback about the pilot web site from a broad base.

Phase 2 (1998/1999) received funding from Status of Women Canada to revise the pilot web site based on the findings of Phase 1, and to train the shelters in accessing the site. As the project developed during Phase 1, the project team saw the need to gather data about the design and implementation issues in designing a web site for women in crisis. Office of Learning Technologies (OLT) provided funding for the project to determine the learning needs and best approaches to learning for abused women and their service providers. This funding enables the project to conduct applied research in the shelters and community agencies providing family violence services. The resulting qualitative data will contribute to the understanding of how these women use the Internet to gather information and enhance their learning. These findings will be incorporated into the web site and can contribute to the knowledge of designing web-based learning approaches.

Program Outcomes

1. *The Web Site* – www.violetnet.org

The VIOLET project has established an important outcome in a web site that presents three different learning approaches. Grounded by principles of adult education and instructional design for the Internet, the reader is guided to learn and develop her own knowledge based upon her own experiences and personal needs. It also encourages women to name their experience and by doing so, understand that they are able to plan successfully for the future. The learning adds to their repertoire of cognitive skills that transcend the level of being able to understand a legal definition and to build on knowledge with technology. Collectively, this type of learning allows for personal growth and self-empowerment.

This web site is a unique outcome of collaboration among the Faculty of Extension and community groups in Alberta. The web site relates to abused women as informal learners and presents legal information in a way that encourages and guides women to interact with the technology thereby learning about crucial legal information. The VIOLET web site is a plain language, woman-friendly, safe space on the Internet providing passive and interactive services for this audience.

Currently, the site has three entry points reflecting three different learning styles. Each entry point leads the user to the legal knowledge she needs, using methods she chooses. Based on the theory that knowledge is constructed through interaction with one's environment, the VIOLET web site has been developed using learning design principles

that let each user choose how to acquire information. Each entry point is based on a different learning approach.

- **Just the Facts** presents the legal information in a book-like fashion. This approach is very didactic and sequential. The information is presented as in a reference book rather than as problem-solving. This approach assumes that the user knows what she needs and is already familiar with the terminology. There is no interaction with the user to confirm her understanding of the information. The assumption is that this approach will be used as a quick reference by those who are familiar with the issues or do not want to take the time for interaction. For those with limited time, the information can be printed for future reference.

- **Mary's Story** takes the reader through a discovery of legal information as told through the story of an abused woman. The developers hope that this will help the user relate the story to her own experience, learning pertinent legal issues as she reads. Throughout the story, links are provided to legal information and the user can choose to link to it as Mary encounters it. All the links are retrieved in a familiar narrative interface. The user chooses when to link to the legal content and when to come back to Mary's story. The site architecture is obvious and easily accessible.

- **It's Your Story** uses web-based learning design to assist abused women and their service providers in reviewing or learning about the most pertinent legal information. This interactive approach allows the user to choose a role to learn about the law in the fictitious situation presented. During the process, she makes choices to interact with the information by answering questions and comparing her answers with the site's answer. This approach encourages reflection and seeks to assist abused women toward self-affirmation.

The learning approaches are designed for informal learners who are not registered learners. This makes it difficult to measure quantitative learning outcomes that are usually incorporated into more formal settings. The researchers will be able to monitor the number of users, and the time spent in the site. Those numbers will assist in revealing the usefulness of the site. Measuring the increased level of knowledge by formal testing, however, is not an option at this time in the project. Later, once the site has been launched, it may be possible to go back to the users and determine levels of use and understanding. The site will be formally launched in March in order to widen the circle of users. The site has been envisioned to be used by a wider readership than abused women and their service providers, for example, volunteers at shelters, social work practicum students, family members, and friends of abused women. Due to the unique

nature of the Internet, a larger group of users—who can be monitored by entries to the site—can access VIOLET.

2. *Developing Community Capacity*

The continuing university involvement with the community at large demonstrates leadership in recognizing that there is a role to play with learners who are not registered in formal learning programs. As an agent in the community, the university offers the opportunity for learning to take place where the learner is. There is a sharing of information, expertise, and exchange of ideas that relates to the academic formal theories of adult education, instructional design, and web based instruction. This project simultaneously introduces and raises the profile of the university to informal learners in the community at large. It reaches out to the learner where she is. It is continuing education in the community; it is adult education for positive change.

Through this process of collaborating with the community, the project has already started to build the community capacity in accessing the Internet. Each of the 30 shelters now has a dedicated computer station for Internet access. Staff at these shelters is being trained how to access the Internet and specifically how to navigate in the VIOLET web site. Preliminary analysis of research data indicates that the shelter workers are very proud to have contributed to the project.

3. *Instructional Design - Internet Learning for Informal Learners*

Another important outcome of this program is the application of instructional design process for on-line learning. Using the principles of web based learning design, the VIOLET project was able to compile approaches to learning that considered adult pedagogy, women learners, and the learning environment of abused women and their service providers. Later, additional components will be added that encourage discussion and collaboration on-line in order to share the stories of abused women and their successes. The learning that takes place will be self-directed and guided by the learner according to her needs and style of learning. This project informs the study of on-line learning in an informal setting, women and the use of technology, and building on-line community.

On going Development

The program as it has been developed does not end with the web site being launched on the Internet. Phases are developing as a result of the initiatives of the VIOLET project.

The use of the Internet to engage learners will continue to gather momentum in a variety of areas. Some of the initiatives in which the community and the University will continue to collaborate are:

1. Data Analysis. The VIOLET project team is currently training, testing, and gathering research data concerning the site and its use and design. The comments will be analyzed in light of many design factors and subsequent modifications will be made where necessary to make the site the most useful and informative that it can be. This analysis will form the basis of the report on how women who have experienced violence and the workers and volunteers who provide services to them learn about the law using Internet technologies.

2. Immigrant Women. In consultation with members of different community cultural groups, the need for a site for the specific needs of immigrant women is a pressing reality. Immigrant women have different information needs that may be influenced by cultural and religious values and conditions. Simple translation of the current VIOLET site does not address the issues of immigrant women. The VIOLET project will expand, pending additional funding, to work with immigrant women groups to explore their needs and design a web site that addresses their particular situations.

3. Expansion of the existing VIOLET web site. Two new components will be added:

   - An area where on-line community can be developed through collaborative sharing of stories by the abused women.

   - Interactive information services where women can ask a question and have it answered by volunteer experts.

The VIOLET Forum. The project team, in consultation with the community groups, is exploring the possibility of on-going dialogue on-line to discuss issues such as the (Alberta) Protection Against Family Violence Act.