Women's Alternative and Informal Learning Pathways to Jobs in the IT Sector

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Getting the Word Out: Findings, Analysis and Presentations

Since starting this study in the spring of 2003, we have talked with some 65 women who work or have worked in the IT field (total from Toronto and Vancouver). In keeping with our focus on alternative and informal learning, most participants did not have traditional computer science or engineering credentials. They ranged in age from 24 to 60 years, with the majority between 30 and 44. Although their was some variety in ethnocultural backgrounds, most participants were of European descent. In our analysis to date, we have mapped what we see as four key areas:

1. Where the women were working and what kinds of IT work they have been doing;

2. What participants see as their key skills and knowledge, and how they have learned these things;

3. Whether informally acquired skills are rewarded and recognized; and

4. Issues and barriers for women's IT careers and learning.

Participants' Work

We have talked to women in settings which indicate the breadth of the IT field — from high tech companies to technical communication firms to non–profit organizations, from large public institutions or corporations to small consulting businesses. Common job areas include project management or business analysis (10 women), technical communication (20 worked in web design and development, technical writing, training, etc.), and systems, networks or hardware (12 worked in network administration, computer repair, technology consulting, etc.). Other participants worked as IT-related academics (2); secretaries (3); database developers or analysts (3); software engineers or programmers (3); or librarians (4). Five participants worked in other areas of the IT field, were looking for work or had left the field, and three participants were studying in a full-time IT-related program.

Identifying and Developing Skills

We found that women adopted various alternative approaches and informal learning strategies. Not unexpectedly, many participants with post-secondary education began in the liberal or fine arts, business or commerce studies, or journalism (36 in total). Although 15 participants had a science-related credential, only seven of these women had a credential in computer science or engineering. Consistent with the spread of IT into more and more areas of work, some participants completed courses or modules in educational programs not traditionally associated with the IT field (e.g., library and information sciences, journalism, business).

Many participants talked about moving from their initial educational areas into a range of IT-related occupations. Even the few participants with a computer science credential did not necessarily stay in the programming or engineering niche; conversely, some participants with no IT-related credential worked their way into the programming niche.

For all participants, formal education is only one strategy that has proved useful in developing the skills and knowledge that they need in order to do their jobs. Because change in the IT field is constant, learning is never-ending and IT workers cannot count on any formal credential to provide all the skills and knowledge they need. Besides

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formal and continuing IT-related education, other learning strategies and work skills that participants have come to use and value include:

• The so-called "soft" or interpersonal skills such as observing, listening, asking questions and working collaboratively, especially important in building new skills and knowledge, and in gaining necessary information;

• Being able to understand the needs of clients and "translate" these needs either into plans or directives for programmers and software developers, or into their own technical communication work such as creating a website, writing guides and training.

• Using a "scaffolding" approach, by building on a base of earlier understanding and skills.

• Being self-directed learners, by "playing" with computers at work or at home or using online resources (e.g., tutorials, help sites, listservs, etc.) to learn new applications, and sometimes to learn about hardware.

• Learning in social settings, by drawing on peers, mentors and experienced colleagues. Several participants mentioned teaching others as a way to be collegial, and solidify and acknowledge their own learning and skill.

Rewards and Recognition

For many participants, the IT field continues to offer interesting work which pays relatively well. The work and learning histories of our participants reveal how they can do well because of a mix of "soft" and "hard" skills. Their skills at listening, meetings needs, translating, bridging, etc. are important, indeed essential, aspects of the IT field. While our study shows that employers value these aspects of women's talents, participants' stories also indicate how these qualities (because they are often not acquired through formal training and attached to IT-related credentials) have been simultaneously devalued, particularly during economic downturns in the IT economy.

Barriers and Other Issues

Many participants described the challenge of balancing work and family life, and the stress of being a woman in a highly masculinized field. These tensions can seem to make IT jobs both good **and** bad for women. For some, a lack of directly related work experience and technical skills have been problematic. Although few participants felt that formal credentials are necessary in their jobs, some felt that not having a formal credential becomes a problem during economic downtowns such as the high-tech "bust" of the late 1990s. Aside from gender, some participants perceived an age-related discrimination, on both ends of the age spectrum.

Next Steps and Dissemination

Every June, the WALL network holds an internal conference. Following this year's meeting, our team presented two sessions at the International Conference of Lifelong Learning and Work, held June 20-22 in Toronto. Our study is also included in the WALL presentation scheduled for the 4th International Conference on Researching Work and Learning (http://www.oval.uts.edu.au/rwl14/) scheduled for December in Australia. We are starting to explore the implications of our findings for policy-making and practices which facilitates women's learning, entrance into and development in the IT field. We also hope to be able to share our findings through the networks of women working in the IT field.

In addition to the issues highlighted above, we will explore further the question of how identity surfaces for women IT workers, in relation to work and lifelong learning, and to the social context of work. We will also explore how this study contributes to an understanding of work and lifelong learning in our so-called "knowledge-based economy."

Best Wishes to Melanie and Welcome Hong!

We'd like to thank Melanie Knight, the Research Assistant with ACTEW for the past year, who has left to complete her dissertation. We wish her good luck with that work and all future endeavours. Welcome Hong Zhu, also based at ACTEW, who has just finished her PhD at OISE!

Vancouver team:
Dr. Shauna Butterwick
shauna.butterwick@ubc.ca
Kaela Jubas
kaelaj@interchange.ubc.ca

Toronto team:
Jen Liptrot
jen@actew.org
Dr. Hong Zhu
hong@actew.org