



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

July 2006

Update 5

Reaching the End — Where are we now? Where to from here?

After three and a half years, our case study is now formally complete. We investigated the learning pathways of 75, mostly white and middle class women working in various IT occupations in the Lower Mainland and Victoria, BC and Toronto, Ontario. The diverse occupational areas discussed in our study include database development, project management, web development, website design, help desk support, technical writing and secretarial work. We also talked to a few women working in programming, software engineering and architecture, and network administration — jobs most typically seen as IT work. We purposefully recruited women who, for the most part, did *not* have a computing science or engineering degree. These credentials are most associated with work in the IT field.

Our participants were between 24 and 60 years old. One noteworthy characteristic about these women is that most of them did not have children. We acknowledge that many of the participants in this study were still relatively young, and that their family status might change in the coming years. On the other hand, the relative lack of parenting responsibili-

ties among participants might offer an interesting reflection of the perception of the IT field as highly demanding in terms of workers' time.

Listed below are some key findings of our study:

- Most of our participants had completed some form of post secondary education, mainly in the social sciences and the arts. They did not follow a linear career pathway to IT jobs. Many had worked in a variety of other jobs before shifting to IT; these occupational shifts were serendipitous and unplanned. Some participants had entered the IT field immediately following completion of their secondary or post-secondary education. Except for the few women who had initially entered IT-related programs, entry into the IT field was also usually unplanned.
- Once IT became their work focus, these women engaged in a complex mix of self-directed, informal and formal on- and off-the-job learning. Their informal learning strategies included playing around, observing and listening to others, and asking questions. Other important sources of learning and emotional support were mentors and supervisors, and networks of colleagues, peers and ex-classmates. In terms of technical resources, participants often relied on manuals, help functions, online listservs or chat rooms and, to a lesser extent, books and periodicals, in staying up-to-date in their skills and knowledge. Finally, some participants were based in workplaces featuring "lunch-and-learns" or other organized learning opportunities; these were strongly appreciated as a way to share information among co-workers and build positive workplace relations.
- For most of the participants, intuition played a key role in problem solving at work. Intuition enabled them to make sense of problems, with either technology, workplace processes or other people (e.g., colleagues, clients or suppliers).
- These women were constant learners but they were also constant teachers in that they em-



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braced a work ethic of sharing their newly acquired knowledge and skills. Teaching and sharing helped participants consolidate and confirm their own knowledge, increase their self-confidence and reputation in the workplace, and encourage a sense of reciprocity among colleagues and peers.

- Regardless of their specific educational backgrounds, work settings and occupational niches, the vast majority of participants had completed some sort of IT-related course or short, focussed program related to their jobs.
- Formal IT training emphasizing formulaic and abstract problem solving did not easily transfer to the real world of work; formal IT training grounded in real-life problem-based learning was preferred.
- While some participants' employers were proactive in providing IT training, the majority of participants engaged in IT learning through their own initiatives, using their own resources of time and money. Not surprisingly, workers in unionized positions or unionized workplaces had assurances of employer support for their ongoing learning. Some participants found the time for learning while at work was limited; for them, IT-related learning "ate into" their home and leisure lives.
- The dynamic and expanding IT field demands that workers engage

in constant learning. This is something that participants both valued and, often, also found stressful. There are financial costs in having to purchase hardware and software, as well as training. Some participants also spoke about having to approach their learning strategically. Because it is impossible to be an expert in all areas, specialization is an increasingly recognized necessity. This can create a sense of having to predict where things are headed – and the realization that making a mistaken prediction can have long-term costs. Again, these costs might be reflected in the purchase of hardware, software and training.

- These women faced a gendered paradox: On the one hand, employers valued the women's "soft" communication, team work and problem solving skills, understanding that workers with such skills were crucial to the development and provision of IT services. At other times, many participants encountered discrimination based on sexism – men's IT knowledge was assumed while women's IT skills were tested or questioned. Some participants also described a form of "ageism" in the very youthful IT field – skills and knowledge of older workers trying to enter this field were also more likely to be overlooked and questioned. At times, age and gender combined in other ways. Some participants sensed that youth

worked in favour of male colleagues, but against them and other young women who were more likely to be regarded as lacking both professional experience and IT-related knowledge. Learning how to interpret and work with gender and age, as well as race and culture, in the workplace and the wider IT field has proven to be a complicated, often unspoken part of the women's work.

We have developed and shared our analysis in a variety of conference and community presentations (including Wired Women Vancouver), and journal articles. Some of these are publicly accessible – you can find examples from the [Canadian Association for the Study of Adult Education annual conference 2006](#), the [Centre for Work and Learning, University of Alberta \(2003\)](#), and the [Adult Education Research Conference 2006](#). We continue to finalize some additional journal articles at UBC, and ACTEW continues to work with its members in Ontario and other organizations across Canada concerned about women's training and employment. In this way, we hope to continue sharing our findings from this study with academics, educators and trainers and policymakers. We encourage you to share this information with colleagues and employers. And, as always, if you have questions or suggestions, we invite you to contact us. Finally, thank you again for your participation in and contribution to this study!

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Women's Alternative and Informal Learning Pathways to Jobs in the Information Technology Sector is part of the Work and Lifelong Learning (WALL) research network, funded by the Social Science and Humanities Research Council of Canada. You can visit the WALL website (<http://wall.oise.utoronto.ca>) for information about this network .