Angela Pollak
University of Western Ontario, London, Ontario, Canada

"Like a Boxer in a Boxing Match – Punch Drunk": The Information World of a Master Electrician

Abstract: This exploratory case study examines the information behaviours of a master electrician in Southern Ontario. Complex information behaviours consistent with Chatman's theories of Life in the Round (1999) and Information Poverty (1996), as well as Social Dilemma/Collective Action (Smith 2005) theories emerged that challenge the way we think about information in this blue collar work environment.

Résumé:

1. Background

Skilled trades are occupations characterized primarily by on-the-job training combined with classroom learning in very specific applied, mathematical, scientific, and often physical skills which usually result in production of a valuable commodity or service intended for consumption either by industry or consumers. Skilled trades in Canada fall into one of five categories depending on the type of work involved: construction, motive transport, industrial/manufacturing, service, and most recently, technology[1]. The list of individual registered trades in Canada is over 200 strong[2], and includes over four dozen 'Red Seal' trades which are specially licensed to work inter-provincially[3]. Red Seal trades include such occupations as carpenters, electricians, mechanics, tool makers, cooks, landscape horticulturists and welders just to name a few. Together, they make up more than 16% (Canada. HRDC [2006]) of the working population in Canada.

From the car we drive, to the bed we sleep in, to the buildings we live and work in, the handiwork of a population 5.3 million strong[4] has an economic, social and personal impact on our community, our country, and on Canada's place in the international economy. However, an increasing number of young people are opting for university educations and white collar jobs, rather than heading for the skilled trades and blue collar careers. Fewer recruits, combined with an increasing number of trades people nearing retirement, have employment forecasters predicting a shortage of skilled trades in the not-too-distant future. In fact, HRDC indicates that "replacing retiring workers will be a more important driver of labour demand in the decade ahead than economic growth, accounting for two of every three job openings on average" (Canada. HRDC [2007]).

Many blame widely held misperceptions about the trades, in part, for the shortage of new recruits. Correcting such misperceptions has motivated efforts to improve the

image and lure of jobs in the skilled trades. Attention-grabbing advertising campaigns sponsored by governments, trade associations and individual industries claim that the trades are highly valued, well respected, well paid 'viable first-choice career options' (SkillsOntario 2008).

In an effort to explore the differences and similarities between the advertised world of the skilled trades in Canada and the experienced world of the skilled trades in Canada, this exploratory case study gathers original interview data about the information world of a master electrician in Southern Ontario who has experienced a full career in his trade. It examines that data in the context of various information theories and themes, and suggests that the actual information world of this particular skilled tradesperson is quite different than the idealized world in unexpected ways.

2. Literature Review

A cross-disciplinary literature review uncovered the sources and contexts of existing literature about the broadly defined group of workers known as the 'skilled trades' in Canada. Often using creative language to cross semantic boundaries, and without limits based on geographic location or time, databases in LIS, business, sociology, psychology and education were searched for relevant publications in English. Popular internet information sources provided important background information that was unavailable from scholarly resources. Resources to inform the interview methodology were also sought out.

A review of scholarly, research-based literature in business, psychology, sociology, and education suggests that there is much research and discussion on skilled trades in neighbouring disciplines. Business literature, for example, reports on issues of policy, skilled labour shortages, government tax incentives and penalties, unions, labour relations, and changing demographics (Agarwal and De Groote 1998, Bloch 2003, Menches and Abraham 2007). Psychological and sociological literature reports on issues of gender, equality, career choice, public perceptions of and attitudes toward the skilled trades, poverty/wealth, social class structure, and immigration (Fuller, Beck and Unwin 2005, Dustmann, Taylor and Watt-Malcolm 2007, Christian and Schoenberg 2008). And the field of education is interested in curriculum, educational policy, apprenticeships, learning environments and outcomes, some gender/equality issues, and post-secondary education (Benenson and Piggott 2002, Skinner, Saunders and Beresford 2004, Hill and Dalley-Trim 2008). As much as this scholarly literature is of supplementary benefit to inform LIS studies into the skilled trades, the focus in these disciplines remains on economic viability, social prosperity/poverty, learning environments and outcomes of this group, rather than on their information needs and uses.

LIS literature has a strong history of studying the information needs and environments of people in the workplace. Unfortunately, in defining workplace as the white collar office environment of professionals and labs of scientists and the workplaces of other scholars, literature discussing the information practices of people who work in alternate industrial or outdoor locations have not yet been investigated to any great extent. Applications of LIS theory to blue-collar workers and working environments is almost exclusively carried out in the context of special libraries and collections, thus focusing more on collection management than on the information needs and environment of this population.

Marking a recent departure from this tradition, Tiffany Veinot's qualitative study of the information practices of a vault inspector at a hydroelectric company successfully captured details of the information needs of this particular occupation in 2007. Veinot's article proved most relevant to this exploratory case-study geographically, demographically, and methodologically.

Investigations into professional sources, such as government, education, and association websites indicated that they remain the primary source of background and technical information about the skilled trades in Canada to prospective trades people. Credible, easily accessible, and authoritative, these sources attempt to describe the world of skilled trades from many practical angles, albeit with a clearly market-oriented, sales-pitch type focus.

A literature review exploring the interview technique as a method of data collection also informed the direction of this study. Resources discussing the methodological process of conducting interviews and analyzing data proved helpful on matters of process, and a number of studies successfully completed using the interview method provided examples upon which to draw for format and style considerations.

3. Methodology

This qualitative case-study explored the information world of a Canadian skilled worker – a master electrician – using the semi-structured interview method. One interview candidate was purposively identified based on access (which encompasses willingness to participate and availability). The interview candidate was a married male, 65 years of age. He finished his secondary education (grade 12) at the age of 21 in 1964. His apprenticeship training took place between 1965 and 1969 and included a trade apprenticeship program at college. The interviewee is currently employed, has his electrician's license, his interprovincial license, and his master's license, and he has additional qualifications in the repair and maintenance of fire alarm systems. For the purposes of this study, the participant will be called Jesse (not his real name).

Jesse's work experience spans a variety of environments including construction/maintenance, industrial and manufacturing. Although the electrician's license allows the holder to work in any of these environments, Jesse considers experience in each environment equivalent to a separate apprenticeship due to the specialized skills and knowledge required in each to be successful. He currently works the afternoon shift (3pm – 11pm) as a maintenance electrician at a public school board in Southern Ontario. He works independently out of a board supplied vehicle at various school settings. In addition to repair and maintenance of electrical facilities, he is required to perform on-call duty on a rotating basis, responding to after-hours security breaches and fire alarms at elementary and secondary schools in a widely dispersed geographic region. He carries a board-supplied cell phone which he uses to communicate with co-workers, the office, suppliers and emergency services (police and fire).

The semi-structured interview format provided a foundation for this interview, and included open, closed and critical incident type questions. Questions revolved around information practices, experiences and the working environment, and were designed to promote discussion and commentary. Although Jesse was aware that the subject of interest was his 'information practices', every effort was made to avoid the use of the

word 'information' in the questions themselves during the course of the interview. Jesse, however, used the word information on multiple occasions.

Initially designed to be completed in one interview, data collection actually occurred on two separate occasions. The primary interview took place at a mutually agreed upon location on a workday morning. It began with an introduction to the project and signing the consent form, followed by a 37 minute discussion revolving around work as a trade, recollection of apprenticeship days, information practices, and work environment. A follow up interview was conducted approximately two weeks after the first interview. Questions at the follow up interview were designed to acquire more information about specific demographics, and to obtain clarifications on a number of questions that remained unanswered. It also included casual conversation around workplace information practices. At the follow-up interview, Jesse provided additional examples, and interestingly, spontaneously mentioned using the library as a source of information that he had not mentioned in the first interview.

Interviews were transcribed immediately after they took place. Effort was made to capture the pauses and expression in the language, including 'ums' and 'ahs', resulting in non-standard grammatical and punctuation notation (i.e. run on sentences, ellipses etc.) in the transcript.

The analysis for the transcript models that described by Kelly et al (2007), where verbal statements are organized according to concepts or emergent themes. There is no word limit to the size of the verbal unit, and although it is acceptable to classify verbal statements in multiple categories simultaneously, it was not attempted in the scope of this study. Analysis of the transcripts included rereading the transcript several times, developing themes and categorization of responses into these themed categories, and making connections between the interviewee's responses and LIS theory. Additional processing of the transcript included superficial examination of the use of colloquialisms and metaphors/similes for the scholarly equivalent of 'call outs'.

The interview was digitally recorded using an Olympus Digital Voice Recorder. A practice session preceded the first interview, where the voice recorder was tested, and the interviewer gained familiarity with the equipment. There were no technical complications with the equipment at any point during the interview process.

4. Discussion

Although many of the information needs of a master electrician are comparable to information needs of someone in a professional career (who have been studied in LIS literature), information needs as simple as keeping abreast of weather patterns sometimes challenge skilled trades who work in outdoor settings. Many of Jesse's workplace information needs fell into a very traditional, practical contexts, including those illustrated in the following table.

Field-specific training and retraining	Work/Task related information	Consumer information (products/services at work)
Government information	Construction code	Experiential

(incentives, programs, regulations and licensing)	requirements	Information
Small business/ entrepreneurial information	Job loss/job seeking information	Union information
Social information (for maneuvering the workplace relationships)	Health and safety information	Sourcing raw materials

Figure A: Types of information sought by Jesse (a Master Electrician)

Over the course of the interviews, it became clear that Jesse held firmly to a belief that information is good, more information is better, and sharing information is desirable. His colourful vignettes of an electrician's information difficulties and disappointments, however, paint a distinctly different picture of the information world in which he operates, and very different from the world one might expect.

Of great interest is the discussion that emerged around information difficulties experienced by this master electrician. This qualitative data provides powerful insight into Jesse's experience in the information world of the electrical trade. Jesse's responses illustrated a number of LIS principles and theories.

Principle of Least Effort
For example, when asked how he had selected the electrical trade to study, Jesse indicated that he selected it by accident,

> "My brother was, uh, uh, asked me... I worked with him a little bit part time, and when I got out of high school, the job was there. So I just stepped into it. I didn't have to go looking for it. I didn't want to be an electrician. I didn't set my goal at it. I always wanted to be a mechanic. But I've been at it now since 1965."

Further, he indicated that a lack of information prevented him from following his dream of apprenticing as a mechanic.

> "I really didn't know where to go look for a mechanic's job in Pembroke. All my high school education was geared to going to university even though I knew that I wasn't going to go to university... that I always was a tradesperson."

Thus, the reason he began and continued in his trade corresponds quite closely to Zipf's Principle of Least Effort (Case 2005). He didn't know how to find information about the trade he wanted to pursue, and so he accepted the information (and the trade) that was most accessible to him, and which satisfied his basic information need (that of finding employment).

Krikelas' model of Information seeking
With regard to information sources, Jesse indicated that at various points in his career he had used books, libraries, educational institutions, consumer information and government sources of information to satisfy his workplace information needs. Consistent with Krikelas' model of information seeking (Henefer and Fulton 2005), he clearly preferred

to approach interpersonal sources (co-workers and family) with questions and problems first. Interpersonal sources of workplace information were identified or ruled out based on factors such as previous experience, turnover rates in specific departments, availability, and perceived willingness to help. Other helpful sources of information included the electrical code book, hydro inspectors, suppliers, and in some cases co-workers. Unhelpful sources of information included building inspectors, supervisors, education/training facilities and, in most cases, co-workers.

Inappropriate/Unhelpful Information
Information difficulties with apprentice training included what Jesse considered a distinct lack of correlation in the education setting between structured information provision and practical information needs. When asked what he considered to be the primary problem with the education of an electrician, he replied,

> "Poor quality, bad teachers, lack of ... irrelevance from what you were learning to job application. That doesn't sound like it has changed much since then. They are teaching way over what an electrician really requires. They're trying to turn electricians into engineers, and, uh, they're way out to lunch in that area."

Lack of Communication
Jesse also cited a general lack of communication among electrical trades, saying "that is exactly what goes on in construction sites. Not much communication. And I don't think it's any different today."

The most poignant manifestation of poor communication, however, arose around roadblocks encountered while navigating his workplace information world and learning how to ply his trade in an industrial maintenance setting. Most surprising was the degree of hostility with which work-related questions (or obvious lack of knowledge/experience/information) in his environment were met. The following example illustrates such hostility, as well as information hoarding, and the affective result attached to information transactions of this nature.

> "So after four months that I was there, I had a drawing from a nice simple little piece of equipment, and uh, I uh, took it to who I thought was the best electrician in the plant. So I did, and I showed him, and his name was John and I hope he rolls over in his grave, cuz that's how much feeling I have for him, and I said to him, 'John, how do you start trouble shooting this piece of equipment? He never said a word to me. All he did was take it up out of my hand, and fold it nicely back up and handed it right back to me. And he said, 'Nobody ever showed me, and I don't show anybody either'."

Bitter interactions such as this – of which there were several examples that spanned different work environments - had the primary effect of removing most co-workers from the list of available, reliable sources of information, thus forcing him to develop an alternate strategy to acquire the information he needed. When asked where he went for help when he had a work related question, Jesse described a trial and error solution that really didn't close the information gap.

> "In most cases you didn't go anywhere. You made your mistakes. You got fired. You picked your feelings up off the ground and said, let's not do this again the next time."

He indicated that at times, it was so bad that he felt "like a boxer in a boxing match... punch drunk" from the interactions during his search for helpful information.

Information Poverty/Life in the Round/Secrecy
In searching for a theoretical model or explanation that is consistent with this electrician's context and information behaviour experience, Elfreda Chatman's work with retired women (1991), the information poor (1996), and women prisoners (1999) came to the forefront primarily because of the examples of insider/outsider philosophy, secrecy and intentional withholding of information she found in these environments. There is clear evidence of an insider/outsider philosophy in the context of this electrician, although a more accurate description may be 'every man for himself' where every person is an outsider. This is completely contrary to the 'ideal' process of information sharing associated with apprenticeship and more akin to what Chatman found with her retired women and women prisoners. There is also clear evidence of secrecy, and her theory that secrecy is a 'self-protecting mechanism due to a sense of mistrust' appears to be valid in this context as well. Further, Jesse often decided not to 'risk exposure about true feelings' (Hersberger 2005), in other words, decided not to ask a question, 'due to a perception that negative consequences outweigh benefits' (Hersberger 2005).

In fact, this vignette is a prime example of Elfreda Chatman's discovery that information sharing is not always perceived as valuable, and that sharing sometimes has negative consequences. Her proposition that social norms determine whether information seeking behaviour is acceptable or not also seems to apply.

Jesse clearly worked in a world where asking for information can have negative consequences including job loss, embarrassment, ridicule, and loss of (self) respect. Further, giving information has negative consequences including job loss, losing a perceived advantage, embarrassment, ridicule, loss of status, and (self) respect. He also cited an example where the only time anyone would offer information voluntarily was to the authorities (building inspectors) with the intention of securing a reprimand for another party thereby gaining back an advantage. The following example arose out of a need to be a licensed master electrician to be self-employed in a particular region.

> "...somebody called in, and I know who they were that called in because I was taking jobs away from them. And they called the building inspector in and there was two of them... the head building inspector and his assistant, and they came right on the job site. They knew exactly where I was. And they basically told me to get off the job site, or they would call the police and carry me off. One way or the other I'm off the job. And then the pressure was do I continue on, or do I write my master's license? So two weeks later I wrote my master's license. I hit the code book hard and heavy. And I did very well. It forced my hand."

After this incident, Jesse developed his own strategies for satisfying his information needs. He tried to 'outsource' his information needs (although he admitted that there was often no outside information available due to the specialized nature of a particular environment). He was very careful about who he approached with questions in the

workplace, and he learned by trial and error both how to do the job and who to ask for help. He was eventually able, after working in the industrial setting for a year and a half, to locate a sympathetic co-worker who was willing to share information.

> "From there I discovered another person who I was able to ask him questions. He wasn't intimidated by giving answers. And I really ... His name was Karl, and he wasn't threatened by it. And he really did a lot of... we had a lot of good interaction. Any time I had a problem or couldn't understand something, I would go and seek him out."

While Chatman's model doesn't fit this experience exactly, it shares some interesting similarities and it is possible that further study could reveal even more.

Social Dilemma/Collective Action Theories
There also appears to be theoretical underpinnings associated with social dilemma and collective action theories of information sharing. According to Marc Smith, 'a social dilemma occurs when actors seek a collective outcome, yet each actor's narrow self-interest rewards her or him for not contributing to that group goal.' The prevailing assumption is that 'the deficient equilibrium will dominate in the absence of mechanisms that alter the payoff structure' (Smith 2005)

In Jesse's example, the deficient equilibrium is characterized by an unwillingness to share information due to perceived costs associated with sharing. The payoff structure is based on self-preservation and advancing one's career, and often comes at the expense of someone else which is actually perceived as a reward, thus reinforcing the negative behaviour. When asked why he thought co-workers were so unwilling to share information, Jesse offered three possible explanations, all revolving around negative consequences associated with sharing information.

First, there is a prevailing fear that the act of sharing information in this environment causes the sharer to lose an advantage and/or give the acquirer an advantage, both of which are undesirable to the person in possession of the information. Second, sharing risks exposing gaps in the sharer's knowledge which can cause negative consequences (ridicule, job loss etc), which is also undesirable. Third, the sharer feels no obligation toward contributing to the collective benefit of the group by sharing, because of an over-riding sense of having been 'wronged' in some way by the group: they feel that they were not able to draw out of the benefit of the collective when they needed it.

Ironically, Jesse's attitude was markedly different than the attitude of his peers. He believed that sharing information is a good thing; it helps you grow, learn and do your job. You can do more and you can do it better when you share information. He found it extremely difficult to work in an environment that did not promote – and in fact actively worked against – this attitude.

5. Changing the prevailing attitude
Interestingly enough, beyond the fact that he encountered this behaviour throughout his career, Jesse was finally able to change the prevailing attitudes at his current employer. As he explained, when he started working there,

"Everybody kept to themselves. I'll be running you down with the next guy was the attitude. If you screw up and it turns out to be a big joke, well, I'll laugh behind your back and I'll even laugh at your face. But that has now changed. Now they have seen the light. The system is too big. You have to be able to share. You have to be able to feel not intimidated to call someone in for a helping hand. It's too big. You need more people."

When asked how he managed to change the prevailing attitude, he explained his methodology quite clearly. Making an effort to change the environment was intentional and deliberate on his part.

"It's a process. You keep asking. You get in their face and you keep asking. Yeah, you get ridiculed. well, you should know that. You know, but, yeah, I want to know if you know! ...then as they opened up more, I opened up more."

Interestingly, the timing of this change coincided with his mastery of both his trade and his information seeking skills in that environment.

"You gotta remember one thing. When I started at the school board, there was nothing at the school board... that I felt intimidated with. Whether it was a gas furnace or an air conditioning unit, or a power problem. There's nothing that I felt I could not handle. I didn't really need anybody. Even today, I don't really need anybody. I don't really have to go get it. I know that I can outsource my information other places."

As described in the Social Dilemma/Collective Action model, the change resulted when Jesse was able to remove the negative consequences from playing a role in determining action. He realized that, at the point he was at in his career, not only was he not afraid of the consequences of going against the prevailing attitude any more, but further, he had developed a number of strategies for 'outsourcing' his information needs, which bypassed a need for him to ask co-workers to share information, and which thereby removed the primary consequence of asking questions – social and informational isolation.

Jesse also acknowledged that the 'time factor' contributed productively to his ability to make the change at this particular employer. The electricians' performance in this work environment is not measured in units of time and cost per minute as it is on construction jobs, which gives trades the freedom – and time – to share information.

6. Conclusions and Future Study Possibilities
While organizations responsible for recruiting young people to the trades advertise that the trades are highly valued, well respected, and well paid careers, the experiences of the master electrician profiled in this interview suggest that the practical, day-to-day experiences of working in the trades bring many information-related challenges as well.

Jesse's information world – which spans over forty years in construction/maintenance, mechanical and industrial electrical working environments – has been characterized by a strong desire on his part to share work-related information in a context where such information sharing is actively discouraged by a majority of co-workers who do not subscribe to the same belief. Jesse encountered a number of serious information obstacles

during his career as a master electrician, which challenged not only his skill level but also his enjoyment of the trade. Secrecy, hostility and information hoarding forced him to develop alternate strategies for obtaining the information he required to be successful in his trade. Although it is somewhat unsettling to think that the world of a skilled trade could be considered an impoverished information world, it nonetheless presents an interesting context in which to study the trades and information practices in the world of work.

Analysis of themes that emerged from the interview suggests some unique and unexpected information difficulties in this blue collar environment worthy of study in the future. Future research into the information practices, needs and behaviors of the skilled trades could include a closer examination of the types of information sources skilled trades turn to when they identify information gaps. Further exploration into this group's ability to transfer experiential knowledge and information from older to younger generations would also prove insightful. Regardless of the topic of study, future research should include the study of a larger number of subjects both within the electrician's trade, as well as in a broad range of other trades to determine how common the information experiences of this master electrician are among other electricians and in other trade contexts. Collectively and independently, such studies will provide a more detailed picture of these blue collar information environments, and have the potential to positively impact the information environment of the skilled trades in Canada. If specific information deficiencies can be identified across various trade populations, policies and practices can be implemented and adjusted to correct them, thus making the trades a more appealing career option for young people on a very practical, day-to-day level.

Notes:
1. Summarized from Skills Canada and TradeAbility websites

2. http://www.careersintrades.ca/media/default.asp?load=faqs03 (Accessed April 22, 2009)

3. http://www.careersintrades.ca/media/default.asp?load=faqs03 (Accessed April 22, 2009)

4. Based on 16% of the current estimated Canadian population (33 504 680) provided by Statistics Canada, and located at http://www.statcan.ca/start.html (accessed April 22, 2009).

Reference List:
Benenson, Gary; Piggott, Felice. 2002. Introducing technology as a school subject: A collaborative design challenge for educators. *Journal of Industrial Teacher Education* 39, no 3: 67.

Bloch, Farrell. 2003. Minority employment in the construction trades. *Journal of Labor Research* 24, no. 2: 271-291.

Canada. Human Resources Development Canada. [2006]. *Looking ahead: A 10-year outlook for the Canadian labour market (2006-2015): Historical overview of the Canadian Labour Market.* http://www.hrsdc.gc.ca/en/publications_resources/research/categories/labour_market_e/sp_615_10_06/page05.shtml (accessed April 22, 2009).

Canada. Human Resources Development Canada. [January 29, 2007]. *Looking ahead: A 10-year outlook for the Canadian labour market (2006-2015): Background briefing on current and future labour market shortages in Canada.* http://www.hrsdc.gc.ca/en/publications_resources/research/categories/labour_market_e/sp_615_10_06/shortages.shtml (accessed April 22, 2009).

Carey, Robert F., Lynne E.F. McKechnie, and Pamela J. McKenzie. 2001. Gaining access to everyday life information seeking. *Library and Information Science Research* (23)4, winter: 319-334.

Case, Donald O. 2005. Principle of least effort. In *Theories of Information Behavior*, rev. ed., ed. Karen E. Fisher, Sandra Erdelez, and Lynne (E.F.) McKechnie, 289-292. Medford, NJ: Information Today.

Chatman, Elfreda A. 1991. Channels to a larger social world: Older women staying in contact with the great society. Reading and leisure interests of women in a retirement community. *Library & Information Science Research* 13, (July-Sept): 281-300.

Chatman, Elfreda A. 1996. The impoverished life-world of outsiders. *Journal of the American Society for Information Science* 47(Mar): 193-206.

Chatman, Elfreda A. 1999. A theory of life in the round: Study of information poverty in a women's maximum-security prison. *Journal of the American Society for Information Science* 50, (3) (Mar): 207-17.

Denise Skinner, Mark N K Saunders, Richard Beresford. 2004. Towards a shared understanding of skill shortages: differing perceptions of training and development needs. *Education & Training* 46, no. 4/5 (May 1): 182-193.

Dustmann, Christian, and Uta Schoenberg. 2008. Why does the German apprenticeship system work? In *Skill formation: Interdisciplinary and cross-national perspectives.*, eds. Karl Ulrich Mayer, Heike Solga, 85-108. New York, NY, US: Cambridge University Press.

Fisher, Karen E., Sandra Erdelez, and Lynne (E.F.) McKechnie, Eds. 2005. *Theories of Information Behavior*. Medford, NJ: Information Today.

Fuller, Alison, Vanessa Beck, and Lorna Unwin. 2005. The gendered nature of apprenticeship: Employers' and young people's perspectives. *Education &*

Training.Special Issue: Apprenticeships: Their role in economies and societies across the globe 47, (4-5): 298-311.

Fulton, Crystal. 2005. Chatman's life in the round. In *Theories of Information Behavior*, rev. ed., ed. Karen E. Fisher, Sandra Erdelez, and Lynne (E.F.) McKechnie, 79-82. Medford, NJ: Information Today.

Henefer, Jean, and Crystal Fulton. 2005. Krikelas's model of information seeking. In *Theories of Information Behavior*, rev. ed., ed. Karen E. Fisher, Sandra Erdelez, and Lynne (E.F.) McKechnie, 225-229. Medford, NJ: Information Today.

Hersberger, Julie. 2005. Chatman's information poverty. In *Theories of Information Behavior*, rev. ed., ed. Karen E. Fisher, Sandra Erdelez, and Lynne (E.F.) McKechnie, 75-78. Medford, NJ: Information Today.

Hill, Angela; Dalley-Trim, Leanne. 2008. Hanging in there: What makes a difference in the first year of an apprenticeship. *Youth Studies Australia* 27, no 1 (Mar): 36.

Kelly, Diane, Nina Wacholder, and Robert Rittman. 2007. Using interview data to identify evaluation criteria for interactive, analytical question-answering. *Journal of the American Society for Information Science and Technology* (58)7:1032-43.

Kvale, Steiner. 1996. *Interviews: An introduction to qualitative research*. Thousand Oaks, California: Sage Publications.

Landry, Carol Fay. 2006. Work roles, tasks, and the information behavior of dentists. *Journal of the American Society for Information Science and Technology* (57)14: 1896-1908.

Menches, Cindy L., and Dulcy M. Abraham. 2007. Women in construction—tapping the untapped resource to meet future demands. *Journal of Construction Engineering & Management* 133, no. 9: 701-707.

Naresh C Agarwal, Michael G De Groote. 1998. Retirement of older workers: Issues and policies. *HR. Human Resource Planning* 21, no. 1 (January 1): 42-52.

Skills Ontario. 2008. Homepage. www.skillsontario.com (accessed April 22, 2009).

Smith, Marc. 2005. Collective action dilemma. In *Theories of Information Behavior*, rev. ed., ed. Karen E. Fisher, Sandra Erdelez, and Lynne (E.F.) McKechnie, 94-98. Medford, NJ: Information Today.

Taylor, Alison, and Bonnie Watt-Malcolm. 2007. Expansive learning through high school apprenticeship: Opportunities and limits. *Journal of Education and Work* 20, (1) (Feb): 27-44.

TradeAbility. 2008. Homepage. www.tradeability.ca (accessed April 22, 2009).

Veinot, Tiffany C. 2007. The eyes of the power company: workplace information practices of a vault inspector. *Library Quarterly* 77(2):157-179.