Formal and Informal Training for Workers with Low Literacy: Building an International Dialogue between Canada and the United Kingdom

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Abstract

The purpose of this exploratory study was to investigate some of the kinds of formal and informal workplace training activities that workers with low literacy engage in from different parts of Canada and the United Kingdom. The study employed a multi-site case study research design with 31 employees and 18 instructors from seven different types of workplace literacy programs in various regions of Canada and 42 employees and 6 supervisors/ tutors from four workplace basic skills programs in the North and South of Greater London, England. Data sources from each country were developed and were used for comparable purposes following a within case and cross case analysis. The findings are described under three main themes. The first theme depicts the range of formal workplace programs in both countries that employees with low literacy have participated in. The second pattern highlights the main types of informal learning activities that emerged from the data which included: observing from knowledgeables; practicing without supervision; searching independently for information; focused workplace discussions and mentoring and coaching. The third theme describes some of the determining factors of the informal learning process. Implications of the study suggest that company sponsored workplace and essential skills programs act as catalysts for further learning at work. As well, findings also seem to indicate that various forms of self-directed learning and the organizational context may play an important role as workers with low skills engage in and shape everyday workplace practices. Suggestions for continuing the cross nation studies are also discussed.

Keywords: Interplay between formal and informal training; workers with low skills; types of informal learning

Introduction

The economic well being of countries such as Canada and the United Kingdom (UK) depends on having a skilled workforce ready to meet the demands of the global economy. Adult learning, which is a key building block towards international competitiveness, allows workers to strengthen the skills needed to fully participate in a labour market that continues to be transformed by new technologies. As the Canadian Council on Learning (2008) states, despite the importance of adult learning, a number of challenges still persist. Although the rates of adult participation in education and training seemed to increase over the last decade, there are segments of the workforce with unmet learning needs and those in most need are least likely to get further education and training. One of these groups are adult workers with low literacy skills.

According to a recent report by Statistics Canada entitled *Learning Literacy in Canada* (2008) little is known about the learning needs of Canadians with low literacy skills. However, Myers and de Broucher (2006) do claim that a large portion of Canada's adult population is not very well equipped to participate in a knowledge-based society. For example, 5.8 million Canadians aged 25 years and over do not have a high school diploma and 9 million Canadians aged 16 to 65 years have literacy skills below the level considered necessary to live and work in today's society (pp. 3-10). Similarly, in the United Kingdom, the International Adult Literacy Survey (IALS) findings indicated that up to 20 percent of the adult population had low levels of functional literacy, leading first to the Moser report (Department for Education and Employment, 1999) and then to the national Skills for Life strategy (2002-7). The Leitch report (Department for Innovation, Universities and Skills, 2006) has emphasised that the UK economy will for the next 30 to 40 years depend largely on employees already in the workforce today. Many of these employees, approximately one-quarter have relatively few, or even no, formal qualifications.

Canadian evidence suggests that adult learning does have the potential to significantly change the economic well being of those with relatively low educational attainment. Zhang and Palameta (2006) analyzed the earning gains of individuals who obtained higher educational credentials later in life using a sample drawn from the Survey of Labour and Income Dynamics. They found that most men and some women who obtained a post-secondary certificate later in life enjoyed sizable wage and earning gains. In particular, male learners with an initial education of high school or less actually received higher returns than their more educated counterparts. Furthermore, evidence suggests that raising literacy and numeracy for people at the bottom of the skills distribution is more important to economic growth than producing the more highly skilled workers. Coulombe and Tremblay (2005) maintain that a one percent increase in a country's score on the international test for adult literacy is associated with an eventual 2.5 percent relative rise in labour productivity and a 1.5 percent rise in Gross Domestic Product per capita.

In a review of literature on the impact of workplace basic skills training as measured by their effects on wages and employment probability, Ananiadou, Jenkins and Wolf (2003) maintain that poor literacy and numeracy skills reduce earnings and the likelihood of being in employment, even when individuals have good formal qualifications. Between the ages of 23 and 37, almost two-thirds of men and three quarters of women with very low literacy skills had never been promoted, compared to less than one-third of men and two-fifths of women with higher literacy skills. For women the ratio drops, but is still very significant. There were smaller but still very significant differences with respect to numeracy skills. In addition, these UK researchers state that "there is also good evidence to suggest that general training provided at the workplace has a positive impact on individuals' wages, particularly when this training is employer provided rather than off the job" (p.289) although there is little robust evidence available about the specific

effects on wages of workplace basic skills training. The accumulated evidence does, however, indicate that training provided at and through the workplace can play a significant role in increasing levels of workforce skills.

As Billet (2002) points out the more unique worksite activities a worker can access and engage with, the more learning that may result. Nevertheless, these learning opportunities are not distributed equally across a particular organization; those individuals confined to routine work, and whose roles may be less valued may have fewer chances to expand their learning (Evans, Hodinson, Rainbird & Unwin, 2006). Recently, types of formal and informal training activities engaged in by the more skilled workers have been documented through survey research (Peters, 2004). However, there is still a paucity of data about the kinds of formal and informal training activities that workers with low literacy skills participate in. One of the methodological problems related to conducting large scale inventories of formal workplace literacy training programs and surveys related to informal learning activities of workers with low skills is that there are no provincial or national systems readily available with information about the providers of literacy and essential skills training (Council of Ministers of Education of Canada and Canadian Commission for United Nations Educational, Scientific and Cultural Organization, 2008). In addition to this very patchwork landscape, companies are hesitant to make known that their workers have reading and writing problems (Tabachnick - Hotta, 2007). As a result, little is known about this marginalized group of workers. Coupled with this knowledge gap, is the need to begin an international dialogue around ways of engaging in cross-nation research studies on this topic of adult literacy learning (Lee, 2007). As a first step forward in this challenge, the purpose of this exploratory study was to investigate some of the kinds of formal and informal

workplace training activities that workers with low literacy engage in from different parts of Canada and the United Kingdom.

Two key works helped to operationalize the terms of formal and informal training for the study. The report on the Adult Education and Training Survey (AETS), which looked at the training of Canadian adult workers, defined formal job related training as courses or programs related to a worker's current or future job (Peters, 2004). These courses and programs have a structured plan whereby an employee led by an instructor or trainer follows a program and receives some form of formal recognition upon completion, such as a certificate or a high school diploma. Formal programs include high school completion programs and registered apprenticeship trade and vocational programs. Courses include seminars, workshops and conferences attended for training purposes as well as courses which are taken for reasons other than credit in a program. Informal job-related training is training that involved little or no reliance on pre-determined guidelines for its organization, delivery or assessment. It does not lead to any formal qualification or certification and is undertaken by the participant with no specific intention of developing job-related skills or knowledge. Similarly, the Canadian Council on Learning (2007) characterized formal learning as those activities which occur within a structured, laddered context and lead to a recognized credential. These education and training activities are intended either for personal or work-related reasons. Informal learning was described as loosely structured, self-paced and self-directed activities that are also intended for either personal or work-related objectives (p. 45).

Conceptual Context and Focused Literature Review

Although the theoretical discussion on informal learning related to work is still somewhat in a developmental stage, three models appear to be providing some foundational direction (Sawchuck, 2008). Each model views informal learning in a distinctive way, yet when taken together, they provide a consolidation of informal learning dynamics and associations with the more formal settings. In the social/conflict model (Livingstone, 2001) knowledge is situated and may be 'taught or untaught', in both self-directed or collectively driven ways with or without the guidance of an expert. In this model informal learning opportunities may be unequally distributed depending on power relations, however the cognitive and emotive factors associated with informal learning are not explicitly addressed. The situated/cognitive model, on the other hand, brings to the foreground information processing and goal-directed problem-solving (Eraut, 2004). The author goes on to explain that different types of cognition are linked to the social situation and it is the particular work context that triggers various forms of processing. The third model (Illeris, 2004), proposes that informal learning is mediated by technical-organizational, social-cultural and individual factors. This model draws attention to the emotional features that shape the work-related learning process which are absent from the other frameworks. What seems to be clear from these models is that they have been formulated based on data from employees with higher educational attainment only.

In some recent attempts to understand workers with low skills, Belfiore, Defoe, Folinsbee, Hunter and Jackson (2004) provide examples of the various ways in which informal literacy learning is mediated by technical, organizational, social cultural and individual factors in workplace settings. Their findings yield some illustrations of informal types of learning such as experienced workers helping new employees understand different document practices or workers

who have learned how to interpret gage adjustment charts for quality assurance purpose on their own or employees who wrote their own versions of an operator's manual. Related to the social/conflict model, Belfiore et al. (2004) demonstrate how informal learning is suppressed when an employee is told that he can no longer maintain his own documentation system once the company obtains an international quality assurance certification. Similarly, Millar (2004) found that employees believed that they are constantly learning on the job but that they have to "hide their knowledge from management or management ignores that learning for various reasons" (p.4).

Building on the situated/cognitive model, Taylor (2006) studied the literacy practices of adults with low literacy skills in the home, community and workplace environment and found that the life roles of these adults, such as parents, volunteer and worker were the driving forces behind the learning, much of which took place outside the formal literacy programs. For example, workers with less than grade nine used the infrastructure of a small company such as volunteer safety committee meetings and toolbox meetings to learn informally and practice their oral communication skills, problem solving skills and reading skills. These findings also support the claim of Colley, Hodkinson and Malcom (2003) who remind us that formal and informal are far from being discrete categories. '' It is more accurate to conceive formality and informality as attributes present in all circumstances of learning '' (p.i).

Another literature that is informing the discussion on work-related informal learning is the acquisition of tacit skills. Evans, Kersh and Kontiainen (2004) describe the tacit forms of personal competencies in the training and work re-entry of adults with interrupted occupational biographies. The authors also identify the significance of recognition of informal learning for basic level employees. The research goes on to show how aspects of employees' individual

biographies as well as their prior experiences play an important part in facilitating the interrelationships between employees and their workplace environments. Through case analysis the results show how adults' learning processes are negatively affected where recognition and deployment of tacit skills is low. Conversely, positive deployment and recognition of these skills sustains learning and contributes to learning outcomes. The starting point is the development of awareness, of learners' hidden abilities or tacit skills by tutors and students themselves. Modeling of individual learning processes provide insights into adults' experiences by making the part played by tacit skills visible. Tutors and supervisors employed different methods to make learners' tacit skills more explicit such as through teamwork, one-to-one tutorial help, and giving new tasks and responsibilities. Individual approaches are needed in designing methods, taking into account experience, background and disposition, as well as learning environments and cultures. Worker's motivation and confidence can therefore be facilitated by such factors as employer support and skills recognition as well as various elements of the workplace environment such as opportunities for career development or additional on-the-job training. Learning opportunities were more likely to be effective when they responsive to the microconditions of the specific work.

Taken together, these conceptual models and literature help to focus attention on the need for further exploratory study, the collection of systematic data and theoretical work that can help explain the circumstances of learning for workers with low skills. It also draws attention to the importance of building an international conversation towards understanding the cultural and andragogical similarities and differences between the somewhat parallel adult learning systems in Canada and the United Kingdom.

Methodology

The research design used for this exploratory investigation of formal and informal learning was a multi-site case study (Stake, 2006). The cases within the bounded system were employed workers with low skills and instructors from different formal workplace literacy programs situated in small, medium and large companies. As Creswell (2007) explains in a bounded system the case has boundaries of time and place and is made up of interrelated parts that form a whole as in a system. For the empirical work in Canada purposeful maximal sampling was used to illustrate different perspectives of the training research problem and to uncover as many determining factors of the learning process as possible. The seven companies chosen for the multi-site case study were recipients or finalists for the Conference Board of Canada Workplace Literacy Excellence Award and were from three different geographical locations; Nova Scotia, Ontario and Manitoba. Companies who receive this award are selected by a panel of Canadian experts based on a long standing workplace literacy program offered by the company that has benefited employees with low skills. Companies who participated in the study were from the manufacturing, automotive and fisheries sectors. The workers who comprised the Canadian cohort had been employed full time or part time or on a contract basis with the companies while other workers had been with the same organization for more than ten years. Instructors at the companies who participated in the study had been involved in adult and workplace education for more than five years. Due to company confidentiality about which workers had low skills levels, the instructors selected the employee whom they had taught in the past year as study participants

for the data collection methods. Criteria used to select the workers included: ability to read workplace documents and printed materials; an ability to write short sentences; and an interest in learning more about their role as workers in the company. Approximately the same number of male and females participated in the study.

To further show different perspectives of the research problem, a sample of convenience consisting of four workplace basic skills programs were used from the North and South of London, England and were from the transportation, service and food processing sectors. These programs typically provide a standard initial 30 hours of instruction in or near the actual work-site; have focused predominantly on literacy; were often built around the use of computers and use teaching materials that are generalist rather than directly related to occupations[i]. Participants in these programs were generally full-time employees, and approximately 60% were male. As described later in this section, this UK database was a component of a longitudinal investigation and coincided with the timing of the empirical work being conducted in Canada.

Data collection at the worksites was extensive drawing on multiple sources of information (Yin, 2003). Four data sources were used in the Canadian sample: semi-structured interviews with workers; semi-structured interviews with instructors; worker journals and physical artifacts. Questions for both the worker and instructor interview schedules were informed from the literature on work-related training, informal learning and adult literacy practices. In addition, questions that were used in the longitudinal UK study, were incorporated into the worker and instructor interview schedules. These were piloted and later revised. Canadian workers who participated in the interviews were also asked to keep a journal on a weekly basis for a month. These employees recorded all of the different things and events that they were learning at the worksite. Both a checklist format as well as open – ended categories were used to assist them in

these weekly entries. The workplace instructors who were on site also acted as a resource people to the employees in completing their journals. Physical artifacts that were collected at the work sites in both countries included documents such as job-related reading materials, e-mail communications, newsletters and descriptions of team projects that were in progress on the shop floor. In total, 33 workers and 18 instructors from the various Canadian companies participated in the data collection methods. Out of the 33 worker participants, 21 completed the weekly journals for a month. In the UK cohort, 42 employees and 6 supervisors / tutor participated in the data collection.

The data analysis path was informed by Creswell (2007); Merriam (2002); Stake (2006) and Yin (2003). Using a holistic analysis approach, a detailed description of each of the 11 cases was developed. A case was written for each work site and included a description of the company, the context, the workplace basic skills program, employee experiences with learning and other activities in the organizational culture. An analysis of the themes and categories was then conducted for understanding the complexity of the case. This was followed by a within-case analysis of the themes for the Canadian work sites and a subsequent cross-case analysis with the UK work sites.

In the UK, this database is part of the Economic and Social Research Council's Teaching and Learning Research Program and the National Research and Development Centre for Adult Literacy and Numeracy. This longitudinal study aims to develop a theoretically informed and evidence based analysis of both immediate and longer-term outcomes of workplace-linked interventions designed to improve adult basic skills. In this study 564 employees have been interviewed and tracked. Data sources have included structured and in depth employee questionnaires administered at fixed points between 2003 and 2008, manager and tutor

interviews; literacy assessments; completion of the Effective Lifelong Learning Inventory (ELLI) and organizational field notes. The research is asking about what happens to the employees that may be related to their learning experiences, and what happens in the company that may be related to the existence of the learning program. Of 10 workplace sites studied in-depth, four were selected for Anglo-Canadian comparisons as a secondary analysis.

Interpretation of Findings

The Range of Formal Workplace Programs

Drawing from the seven Canadian cases, it was found that small, medium and large companies offer a variety of formal workplace education programs. A common feature across all of the Canadian cases is the use of the term Essential Skills. Words such as literacy, workplace literacy or basic skills are not used. Workers, instructors and other types of employers all use this same term to describe a full range of learning content related to the worksite. One of the key reasons for the inception of these Essential Skills programs was that the company was in a period of growth, or downsizing or in the beginning of a particular technological change. These circumstances triggered the employer to offer the training program, usually on a shared cost model. In some cases a group of workers requested the training from the company owner.

In five of the Canadian cases, which were representative of large and medium sized companies, a much wider range of formal training programs were provided to employees and included high school up-grading, English as a Second Language (ESL), computer training, training in Workplace Hazardous Materials & Information Systems (WHMIS), First Aid and CPR. Programs also focused on communication and team work such as Public Relations in the Workplace, Communicating with Emotional Intelligence and Manufacturing Leadership. Some

of these programs were offered in a learning centre at the worksite and provided some type of sequenced curriculum taught by a qualified instructor resulting in certification or participation recognition or mastery of a work related task. For example, participants such as sewers, framers, fork lift operators and fish plant processors were enrolled in the General Education Development (GED) upgrading classes at the worksite in preparation for the grade 12 equivalency exam. In one particular case, the company developed a provincially recognized Mature Student Diploma using fifty percent of the actual material used in the organization. In the two Canadian cases which were from smaller type companies, training opportunities with instructors tended to be shorter types of learning experiences such as report writing, document reading, conflict resolution workshops and numeracy instruction offered in a modular approach.

In two of the UK cases, programs were situated in large, multi-site organizations. Although the classes had been carried out at a wide range of sites they were mainly held in various centers or 'Learning Zones'. Equipped with computers and training rooms, they aimed to provide an inviting and non-threatening space for learning, which included literacy, numeracy, General Certificate for Secondary Education (GCSE) English, Information technology (IT) alongside other courses. In one case, a training facility initially consisting of a small room with five computers expanded to a learning centre became a 'LearnDirect' (mediated computer-based training) Centre in 2002, and then moved to a large purpose-built building in 2004. In this latter case, the company paid the salary of a full-time tutor and assistant and provided the funds for the new building, while LearnDirect (public funding) financed the computers and resources. The Centre is also open to the local community. In addition to computer and skills for life courses and job-specific training, the Centre also offered adult education courses which have been very important in attracting individuals from the company and community at large. In another food

processing company, literacy and language courses were union negotiated and offered as part of a company to upskill their existing workforce in order to fill promoted positions internally such as team leader.

One of the key findings of the cross case analysis was that employee participation in a formal program acted as the catalyst for the various informal training activities that occurred back on the shop floor. Participating in an organized class or in a tutorial session heightened employee awareness of the importance to learn and to take charge of their own learning. This interplay between formal and informal training was synergetic. As one instructor said,

> "it was like employees were re-awakened to their own learning capabilities as a result of the program and this provided a different viewpoint about their workplace and their jobs".

Back on the shop floor, employees experienced a certain type of assuredness in their literacy skills to self direct their own learning and try their regular or associated job tasks in different ways by themselves or with others informally. It was like workers began to realize that there was a pathway of learning in front of them. For some employees, the driving force for participation in the formal program was the credential while for others it was the chance of career advancement. However, this external motivation shifted once they become engaged in the more informal learning back on the floor or unit. What fuelled this desire to learn without the structures of the formal program was a viewpoint that the day to day work requirements could be done differently or better through self-initiated or team-initiated learning.

There was also evidence of an interplay between formal learning and informal learning, with both external and internal motivation combining in highly context specific ways. An example is the UK employee in a food processing plant, who saw a very direct and tangible link between the formal course and the skills used day to day at work. The process of a "flattening out" of

management structures meant that she was increasingly required to take on more responsibility that also entailed increased paperwork. This case also underlined some of the advantages and disadvantages of workplace-based formal courses. On one hand such training offers accessibility but on the other hand it also can potentially be negatively affected by pressure from managers on employees to miss learning sessions in order to fulfill their duties in the workplace. This appears to have occurred to several employees in this particular organisation. Greater day to day job satisfaction was apparent in many of the UK employees who had participated in formal workplace courses, and had developed a greater awareness of the learning potential in their jobs as well as their own abilities for self-directed learning. Longer term follow-up is indicating, though, that without advancement or some kind of external recognition stemming from the employee's engagement with a combination of formal and informal workplace learning, this satisfaction can be eroded over time.

Types of Informal Learning

A second key pattern from the cross case analysis was related to the types of informal and self-directed learning identified by the workers with low skills. Five categories of workplace informal learning activity emerged from the 11 cases. The first type "Observing from Knowledgeables" included learning a new task or the same job task in a different way from a more proficient co-worker or supervisor. This often meant that the worker self-identified a mistake or error in a job task and searched for an expert to observe doing the same task. In one particular case, an employee mentioned that "seeking advice from experienced co-workers on inspection quality standards, conformance with blueprints and drawing up of specs" was his preferred way of learning on the job. In another company, a worker learned how to separate a bag sealer when processing clams by watching a respected worker. She also learned how to reset and

reload the new label machine in the cannery by watching a peer. Steve, a worker in a large company went on to say, “for example, if there is a new drilling technique, I’ll observe how it is done and try out the procedures”. On the assembly line, another worker said “I asked a more experienced co-worker for his technical know how and advice for operating the machinery”.

“Practicing without Supervision” was a second category of informal learning activity. For the most part, workers sought after new challenges in their crews where they could practice a skill, like problem solving, or participating in the company in a new way such as joining a union or health safety committee. In some cases both in Canada and in the UK transfer of these skills learned informally happened outside of the workplace. For example, one worker described how she was better equipped to now volunteer for the United Way Campaign and to participate in a dragon boat fund raiser. Another employee described it this way,

> “Pretty near every part of my job is informal learning. Everyday I get Jason to teach me how to download information from the Global Positioning System (GPS) into the computer so I can make a map instead of waiting for someone else to show me how to do it.”

A third type was “Searching Independently for Information”. Workers often used their reading and computer skills to search for new kinds of information on a problem presented in the routines of the work day. Frequently, the Internet, Intranet and work manuals were used for this information search. If employees had already taken a company computer program there was transfer of learning of those skills back to the unit and if not some initial guidance by a co-worker on how to perform the search task was provided. One worker from a large company explained it this way,

> “I do use e-mail at work to e-mail my boss. I send up-dates, virus alerts, notes related to health issues, etc. I also e-mail the Human Resources (HR) representative occasionally about something that might be related to what she’s working on that she could pass on to others”.

"Focused Workplace Discussions" with peers and supervisors was another main type of informal learning. Employees used questioning and summarizing skills to engage in workplace updates. They sometimes exchanged shop talk around work task procedures and for reporting on updates on new machinery. In one case, three different employees remarked that work related safety was an important trigger event that prompted much discussion and informal learning. This type of learning took place during the regular scheduled safety meetings.

> "I also have a lot of meetings on different issues inside and outside the company for example, wearing safety glasses, wearing your hard hat, safety issues at the gates and floors coming up".

Another worker explained,

> "We also have safety meetings for all maintenance staff. In these meetings we learn about when to lock a machine, how to watch where you step and safety procedures. And every first Friday of the month, my crew has a Tool Talk session where we talk about safety issues on the job."

"Mentoring and Coaching" was another main category of informal learning. Most workers who taught a fellow employee how to perform a job-related task reported that there were many gains by learning in this way. They realized that they first had to talk through the steps of the job task and understand the sequencing before coaching another worker. A common pattern for these types of employees was that they became aware of an increased ability to mentally organize information when demonstrating a task to another worker. For example, Sam pointed out that he had to "interpret the rules to some new hires and coach them in what was taught to him and what he learned on his own through trail and error." In teaching someone, he said, "it helped me learn a different perspective on how to do something and how to do it better."

Determining Factors of the Informal Learning Process

Based on the 11 cases, three determining factors emerged that focused on the informal and self directed learning process: the importance of trigger events, personal attitudes towards learning and an inner recognition of the benefits of learning. The trigger events that prompted the various types of informal learning discussed in the previous section were mainly related to a company ethos of quality and increased performance or safety concerns within the work environment. For example, some company wide events that had occurred were an incentive program for increasing production, a meeting with the Vice President to discuss the re-organization of a particular department and a workplace accident that had recently happened in the news. It was also found that the workers who belonged to companies that had a well defined and visible learning culture reported that they wanted to perform better for the organization or the customer.

Most often workers who had completed a formal workplace education program returned to the factory floor with a heightened awareness and self directedness that some work responsibilities could be done differently. Such was the case for the fish plant processor who became aware of another method for packaging a fillet product or the leather cutter who realized that there was a more efficient way of communicating measurements with its satellite company in Mexico. All of these events triggered a need for independent learning and contributed to the desire for more informal learning. Coupled with this determining factor was a positive attitude held by the workers about the importance of lifelong learning. Some employees had a curiosity about wanting to learn new things at the workplace. These workers believed that they possessed the creativity and imagination to learn. Other workers remarked that they were uncertain toward learning. They felt more dependent on others for help and guidance and less pone to pose questions. Whatever the worker attitudes were towards learning, they seemed to play an

important role and acted as the fuel for the informal learning. A third determining factor was related to an inner recognition by the worker that the informal learning activity had personal and work benefits. This was evidenced by the increased worker self-esteem that was regularly mentioned. Feelings of self worth and being regarded as a valued worker were all attached to this type of learning. It is interesting to note that in most cases employees were not motivated to learn informally for monetary rewards or the possibility of upward mobility. They were "spurred on by the need for a challenge or variety in the everyday work routine".

Particular to the UK cases, employees' personal and educational backgrounds as well as skills they had learned from a variety of experiences in and out of paid employment influenced the ways in which they carried out their duties and responsibilities and dealt with various workplace situations. Yet this was not a deterministic process. It was found that formal workplace programs had the potential to compensate for previously negative educational experiences and to raise awareness of the opportunities (or 'affordances') for further learning through everyday work practices. Formal workplace programs have the potential to compensate for previously negative educational experiences and to respond to individuals' shifting attitudes to learning, with spin-offs for engagement in informal learning. There is a need to consider how the wider organizational environment itself needs development if it is to support rather than undermine investment in learning. Workplace learning programs need to be supported by working environments that are 'expansive' if they are to be successfully sustained. Promotion prospects and strategies seem to be important in sustaining employee motivation to take up formal courses in the longer term (although there are some notable exceptions to this among the UK cases); this is less so for engagement in informal learning, where the focus is on current job satisfaction.

Worker readiness and motivation to learn informally can have many origins. In the context of literacy learning, longitudinal tracking and in-depth interviews in the four UK cases have provided important channels for exploring employees' experience with, and strategies for coping with, literacy in the workplace and in their personal lives. These workers' own perceptions of whether they are coping with their existing levels of skills within or outside work challenge straight forward assumptions, underpinning the UK government's 'Skills for Life' agenda. These assumptions are about the existence of large-scale skills deficiencies and their direct impact on productivity with a more nuanced approach that emphasizes individual strategies for coping with literacy practices and their own literacy needs whilst highlighting those cases where skills gaps exist and where employees have indeed been positively affected by workplace courses.

Implications for Theory and Practice

Results of this study provide some preliminary evidence on the nature and scope of formal and informal training activities for workers with low skills in different parts of Canada and in the Greater London area of the UK. The findings also begin to trace the learning paths of such workers in small, medium and large companies and how participating in the more formal workplace programs, courses and workshops can ignite the desire to direct one's learning and to do things differently back on the shop floor. The range of formal programs now being offered by such companies and the types of informal learning activities that happen in the work lives of employees with low educational attainment sheds some light on how work related training is structured and the kinds of decision that such employees make as they take charge of their own learning. The results of the study also provide some initial steps towards a dialogue on adult literacy learning for the research field in Canada and the United Kingdom.

It does seem clear from this study that in both countries work related training is still a very complex phenomenon to investigate and that informal learning by its shere definition and types as described by the workers with low skills is a central feature in this training continuum. In discussing the definitional debates, Boud and Middleton (2003) indicated that workplace informal learning was traditionally regarded as being "part of the job". However, viewing work-related informal learning in this manner masks the origins of an entire set of workplace skills and knowledge as well as the importance of its facility. It would seem that since much of the formal and informal learning that occurred with the workers in this study was self-initiated, a common research agenda might entail looking into conceptualizations of a workplace knowledge base that results from the continuous forms of learning. For example, Ellinger (2004) examines the concept of self-directed learning and its implication for human resource development. She acknowledges the benefits of self-directed learning in the workplace as relevant to both organizations and individual workers.

Results of this study show that a fundamental component of informal learning is self-directed learning such as in the types referred to as "Searching Independently for Information" and "Practicing without Supervision". Ellinger goes on to suggest that integrating self-directed learning into HRD requires that the teacher or trainer match the learner's stage of self-direction. This is somewhat similar to the ideas espoused by Livingstone (2001) in the social/conflict model. In facilitating the process of preparing learners for higher stages of self-directedness, it is important to recognize that those adults who are relatively dependent require a more traditional and formal approach to instruction initially. In a recent study of self-directed learning of undereducated adults, Terry (2006) also found that these marginalized adults tend to be less self-directing in the beginning of a learning opportunity but that this gradually increases with more

confidence and more engagement. Such was the case in this study. As employees participated in the formal training they started to recognize their own abilities for self directedness back on the shop floor which prompted the new forms of informal learning. This was a common trait of workers in both countries.

Another impact of the study and similarity between the two countries was that workplace informal learning was not limited to a simplistic understanding of self-directed learning such as independent mastery of work procedures, but encompassed the relationships among employees, context and opportunities. For example, it was found that informal learning can also result from "Mentoring or Coaching" as well as participating in "Focused Workplace Discussions" or committees. This type of work-related learning is a complex process that involves the interplay of employee agency, workplace relationships and interdependencies and the affordances of the wider environment. These variables, in some instances, promote rich informal learning, where 'doors are opened' to opportunities to expand and share knowledge and skills in supportive workgroups. In other cases, workplace discussions and the mentoring of another worker can have unintended negative influences on learning, for example where the interdependencies of the workplace are undermined by feelings of lack of trust. Sociocultural understandings of ways in which knowledge and learning are constructed from social interactions in the workplace (Taylor, Abasi, Pinsent-Johnson, Evans, 2007; Taylor, Evans & Abasi, 2007; Billett 2006) problematise simplistic versions of self-directed learning and point to reconceptualisations that can embrace the interdependencies inherent in workplace practices.

An additional implication of this multi-site case study is that the findings begin to extend the existing frameworks for understanding informal learning. One particular perspective that is useful in interpreting some of the results is the work of Eraut and the situated/cognitive model.

Based on a series of large and small scale projects investigating informal learning in the workplace, Eraut (2004) described the triangular relationships of learning factors and context factors. Of particular interest to the findings of this study is the interplay among confidence, challenge and support. Workers with low skills in both countries clearly stated the importance of their newly acquired confidence in seeking out informal learning after participating in the more formal program, course or workshop. This confidence may be linked to what Bandura (1998) calls agency. A worker's agency changes as he or she successfully meets challenges in everyday work routines that require learning. At the same time, as Billett (2006) and Evans et al. (2006) have shown, the exercise of agency personalizes work by changing and shaping work practices. However, this confidence to take on new challenges is dependent on the extent to which workers felt supported in that endeavor. This support is not only provided by a supervisor but also through supportive co-worker relationships that are perceived to be important. As Eraut (2004) points out "if there is neither a challenge nor sufficient support to encourage a person to seek out or respond to a challenge, then confidence declines and with it the motivation to learn" (p. 269). As opposed to identifying productivity gains relating to both formal and informal training it may be more advantageous to better understand employee job satisfaction and engagement with the workplace. This may indeed be the common ground for researchers in both Canada and the United Kingdom and a means for engaging in cross nation studies using the Essential Skills and the Skills for Life profiles as the intersection points.

Another step that can be taken towards furthering the international dialogue is to consider a wider framework for understanding the organizational context. Evans et al. (2006) argue on the basis of extended research in more than 40 organisations, that interventions need to address both employee and employer needs. The involvement of employee representatives contributes to the

expression of employees' interests and can reassure them that gains in productivity will not have a negative impact on jobs and conditions of employment, where this is genuinely the case (Rainbird et al. 2003). While learning needs to be seen as an integral part of practice rather than as a bolt-on, attention needs to be paid to the environment as a whole. The work environment affects how far formal learning can be a positive trigger for the more informal. A short-term timeframe and a narrow view of learning, dominated by measurable changes in performance, will not enhance the learning environment and can stifle innovation. The concept of a continuum of expansive and restrictive learning environments can be used as a tool to analyze and improve opportunities for learning, using a five-stage process as described by Evans et al. (2006). Briefly stated, stage 1 identifies the dimensions of the existing learning environment while the next step assesses the current position of the workplace against each dimension separately. In stage 3 the possibilities for improvement are identified followed by stage 4 which is to determine which improvements make sense for the location or organization concerned. The final step is the actual implementation and monitoring of the learning.

Using this process, Evans, Waite & Adamaschew (2007) further develop the model into a social ecology of learning. Such an ecology of learning in the field of adult literacy and basic skills leads us to consider the relationships between the affordances of the workplace (or those features of the workplace environment that invite us to engage and learn), the types of knowledge afforded by essential skills learning (including knowing how and 'knowing that you can') and the agency or intention to act of the individual employee, reflected in their diverse motivations. These are triangular relationships and mutually interdependent sets of interactions. There are affordances for learning in all workplace environments. Some are more accessible and visible than others. The intention of employees to act in particular ways in pursuit of their goals and

interests, whether in their jobs or personal lives, makes the affordances for learning more visible to them. The know-how associated with literacy practices such as report writing, problem solving through role playing, reading numerical documents or finding better ways of expressing oneself , and the confidence of 'knowing that you can' often develop as the person engages with the opportunity. In addition, the process of making the affordances for learning more visible itself can generate the will to act on and use those affordances, which results in new knowledge and ways of working. In the shifting attitudes to learning, the changing levels of know-how and the confidence that comes from 'knowing that you can' both stimulate action and the seeking out of affordances within and beyond the workplace in the form of further opportunities. As this point illustrates, there is much potential here for engaging in cross nation studies using a social ecology of learning framework both from the constructivist paradigm as well as from the pragmatic worldview. (Plano-Clark & Crewswell, 2008).

In conclusion, this study has attempted some initial comparisons between two industrialized countries on the complex topic of formal and informal learning. These comparisons have brought to the forefront both similarities and differences that focus on the larger systems of adult learning and training. For example, each country has a similar terminology and language for describing the framework of foundational competencies of workers – Essential Skills and Skills for Life. Similar problems also exist in these systems in that it is the small and medium sized enterprises that are still struggling to find training opportunities for their low skilled workers. As much as learning centers are the more advantageous venues for encouraging a learning culture for all types of workers in large companies, it is only in the UK that we find that these centers are also open to the general public. Across all of the foundational skills that are important for workers with low literacy, the acquisition of new computer skills

through formal or informal learning opportunities are on the top of the list in both countries. On the other hand, a difference between the two adult learning systems is related to the importance given to the organizational environment in the UK for both formal and informal learning. This factor did not surface in the Canadian data and may be due, in part, to the longitudinal tracking and follow-up studies that are clearly a priority in the UK research agenda. What seems to be a comparative building block to further an international dialogue is the fact that workers with low skills have developed some very innovative strategies for coping with the literacy demands of the workplace and that the positive impacts of job satisfaction and personal gain are threaded through both formal and informal basic skills training. These commonalities have much research potential.

On a final note, the Canadian Council on Learning (2008) once again signaled the importance of further investigating informal work related learning. The report goes on to say that there is little pan-Canadian information on who engages in informal training, how and why they do it and what types of practices take place. In the UK, the evidence to date suggests considerable diversity reflective of the complexities of the workplace context, variations in the quality of working environments and the differential positions of employees within workplace hierarchies. From a qualitative point of view, this study of workers with low skills provides some partial insights into these questions. More fundamentally, from a theoretical standpoint, understandings of self directed learning, going beyond simplistic versions that emphasise independent mastery of work tasks, are needed to make sense of the ways in which employees take engage in and shape everyday workplace learning.

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[1] The other major issue for the design relates to the existence (or rather non-existence) of teaching content related to

learners' workplaces or occupations. There is some strong research evidence (cited in our original proposal) that vocationally- and job-relevant material is learned more effectively and faster by adults than general content. Moreover, government guidance explicitly recommends that workplace basic skills tuition be preceded by and built on a careful analysis of workplace needs and practices. However, in actuality, such detailed needs analyses are rarely conducted and teaching material is generalist. (In the case of LearnDirect-based schemes, this is invariably true.) We have therefore concluded that it would not be appropriate to use occupational-specific tests to measure skill changes and will administer only general tests (but designed explicitly for adult learners.)

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