

The Interplay Between Formal and Informal Learning for Low Skilled Workers



Project Description and Methods



Partnerships in Learning
Ottawa, Ontario Canada • January 2008



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The main objective of this two-year project was to trace the learning paths, trigger events and decisions that lead basic level workers to become engaged in both formal and informal training at the workplace. This objective focuses on the involvement of employees and instructors from actual award winning or finalist programs of the Conference Board of Canada Awards for Excellence in Workplace Literacy in 2003, 2004 and 2005. Specifically, seven program sites from small, medium and large businesses across Canada, their instructors and their learners were the focal point of this project.

The second related objective was to document the range of workplace education programs, the incidental or tacit knowledge and skills that are acquired outside of the formal training program and how these pieces fit together as a strategy for lifelong learning and work. The workers who are involved in these formal programs and their instructors were the key informants for this project. Participants were involved in the project at two key periods – during and after the training program so as to capture the links between the formal and informal learning.

A third objective was to explore the results of this project with a component of a large scale, longitudinal study in the United Kingdom funded through the National Center for Research and Development in Adult Literacy and Numeracy at the University of London, Institute of Education. This UK study is looking at effective workplace basic skills strategies for enhancing employee productivity and development through several quantitative and qualitative measures. A number of similar types of questions and items from these tools were incorporated into the Canadian data collection procedures. This allowed for a broad comparative analysis with a component of the multi-year, multi-variable UK workplace basic skills study.

Identifying the Gaps in Informal Learning for Workers with Low Skills

There is now some attention being paid to the massive yet ignored significance of informal learning at the workplace. Although many of the reported studies look at work and learning



cycles for adults with higher educational attainment, little is known about the basic level worker and the interplay between their formal and informal training at the workplace. This project filled a need for information in this area. In a recent project funded by the National Literacy Secretariat (NLS), Taylor (2004) used an ethnographic approach to study the informal learning practices of adults with low literacy skills at home, in the community, and at the work site. It was found that employees with less than grade nine used the infrastructure of a small company such as a volunteer safety committee meeting or a tool box meeting to learn informally and practice their oral communication skills, problem solving skills and reading skills.

In another recent project funded by the NLS, Belfiore, Defoe, Folinsbee, Hunter and Jackson (2004) looked specifically at the nature of literacy in contemporary workplace settings. Threaded throughout their work are illustrations of how situated literacy learning occurs and the importance of the workplace as the key context. Many examples of such informal types of learning are cited such as experienced workers helping new employees understand different document practices, or workers who learned how to interpret the gage adjustment chart for quality assurance purposes on their own, or the employee who wrote his own version of an operator's manual.

Both of these projects signal the importance of the hidden knowledge that basic level employees acquire informally which is often unrecognized at the workplace. What is now needed is some typology or organizing tool for understanding the different types of informal train-

ing and how these events might be connected to the more formal training undertaken by the worker which are usually cost shared. This typology could help in recognizing the valuable learning that takes place in the training plan of the employee. Up to now, this interplay between the two types of training has been significantly ignored.

Recently, the Manitoba Center for Education and Work, with funding from HRSDC, conducted a study to identify specific skills and knowledge acquired informally at the workplace for higher level employees. Using a qualitative research design, Millar (2004) found that the perceptions of management and employees concerning formal training and informal learning are very different. Employees believe that they are constantly learning on the job and that they have to "hide their knowledge from management or management ignores that learning for various reasons" (p. 4). Results also indicated that the idea of informal learning needs to be researched and marketed to small and medium size businesses. Although some indication of how employees learn informally was touched on, the focus was not on the basic level worker. In addition, a more in-depth treatment of what triggers these informal learning events and the decision making process is now required. This project filled a gap in this area.

In a similar vein, Livingstone and Sawchuck (2004) explored ethnographically the hidden knowledge of organized autoworkers, chemical workers and garment factory workers. Their findings present a picture that reveals highly active learners who face serious barriers to applying much of their current skill and knowl-



edge in their paid workplaces. The authors go on to say that informal learning holds a special place for these groups and that it is much more extensive among all unionized workers than any type of formal education. However, it is these informal learning capacities that are even more widely ignored (p. 5). This project filled a gap in this area by bringing to light these learning capacities and by recognizing that there is a connection between formal and informal training as basic level workers develop lifelong learning strategies and plans at the workplace.

As well as building on the existing knowledge base of previous work supported by the NLS, this project also used a number of key ideas and organizing frameworks that have demonstrated some explanatory power in adult education. For example, ideas like the adult learning taxonomy, personal tacit competencies, the interactive self-directed model and results of the Adult Education and Training Survey (AETS) acted as building blocks for this project and provided a conceptual value to the work. These concepts influenced the design of the project the development of the tools for data collection, the lens for analyzing the findings and the shape of the final products.

In 2003 the results of the Adult Education and Training Survey were released and focused both on formal and informal training activities with a commonly held definition of self-directed learning. This useful definition and AETS data base provided a backdrop for which to compare the Canadian workers around such variables as participation, motivation and barriers to formal training. Foley (2004) also provided a framework for depicting the four

forms of adult learning – formal education, non-formal education, informal learning and incidental learning. His descriptions of these various learning dimensions, especially the latter two, were useful in sorting out the collected data.

Further developing the area of incidental learning, Evans, Kersh and Kontiainen (2004) described the tacit forms of personal competencies in the education, training and work re-entry of adults with interrupted occupational or learning biographies. The authors identified ways in which the recognition and development of passive skills can be harnessed to strengthen their learning outcomes in working environments. This project served as a comparative juncture between the Canada and UK databases.

Overview of the Project Design

This two-year project was divided into four phases of activity. The first phase of YEAR 1 was “Developing the Project Framework and the Training Workshop for the Practitioners.” It focused on developing the structure and guideposts for the next 20 months of project activity. It began in June 2005 and ended in December 2005. During this phase, the Advisory Committee played a key role in developing the reference points for the project, and selecting the workplace literacy programs from the small, medium and large businesses. This was also a time when the new instruments for data collection were designed and field-tested with input from learners, instructors and researchers. The training workshop on case



study methods for the field researchers was also developed in this phase.

The second phase of YEAR 1 was called “The Training Workshop and Data Collection” and lasted from January 2006 until August 2006. It was a time when the workplace instructors were brought together to learn the basic stages and techniques of case study research. Once the field researchers returned to their programs, the learners in the program were identified as key informants for specific data collection procedures. During this time, the Project Director initiated the coaching process and developed a feedback line with each of the seven researchers. The third phase which was part of YEAR 2 was called “Data Analysis and Write-Up of the Case Study.” It began in September 2006 and lasted until April 2007. In this phase, the information collected across the different program sites was prepared and analyzed for interpretation. Individual case studies from each of the seven work sites were developed, edited and finalized. These case studies were then analyzed using a constant comparative technique. Both the case studies and cumulative content analysis formed the Canadian data base. The next phase of YEAR 2 “Project Consolidation” started in May 2007 and ended in December 2007. Two key activities took place during this phase – the final comparative analysis using the Canadian database and a component of the longitudinal UK study data base and the completion of all of the project products. These included the seven case studies from Canadian workplaces, a multi-site case study write-up of the UK workplaces, an executive summary written for practitioners, a policy digest for analysts and an academic report.

In this project, the case study of each program was the key research tradition used and was defined as an empirical inquiry that investigated a contemporary phenomenon within a real-life context, especially as the boundaries between the phenomenon and context were not clearly evident (Merriam, 2002). As a qualitative case study, attention was given to three specific features: particularistic, descriptive, and heuristic. Each case study was particularistic because it focused on a particular program that had a type of longevity which allowed for important representations of the training phenomenon. It was also descriptive in that it used prose to describe, elicit images, and analyze the different influences of time on the training. This was done instead of reporting findings in numerical data. As well, each case study was heuristic in that, to some degree, previously unknown relationships and variables emerged which led to a re-thinking of the training phenomenon. As a result, there was a different understanding of what happened in each program’s life. The overall intent of the seven case studies was interpretive. In other words, the descriptive data was used to illustrate and support some of the key theoretical positions in the literature of formal and informal learning.

Data Collection and Analysis

Through various data collection methods, seven different types of formal workplace literacy programs situated in small, medium and large companies were selected for the study. These companies were from the manufacturing, automotive and fisheries sectors in West, Central



Canada and Atlantic Canada. Participants had been employed full time or part time or on a contract basis with the companies while some workers had been with the same organization for more than ten years. Approximately the same number of male and females participated in the study. In the United Kingdom, examples of four types of workplace basic skills programs were chosen in the North and South of England from the transportation, service and food processing sectors. These have typically provided a standard, initial 30 hours of instruction in or near the actual work-site; have focused predominantly on literacy, and have often been built around the use of computers that used generic teaching materials. Participants were generally full-time employees, and approximately 60% were male.

Comparable questions were developed for the trainee and instructor semi-structured interview schedules and worker journals. As well, the Effective Lifelong Learning Inventory (ELLI) was administered to a sample of learners in each program. (See Appendix A, B, C, D for the four tools used in the project). Artifacts from each work-site were also collected. Thirty-three trainees and 18 instructors from the various Canadian workplace programs participated in the interviews while 21 workers completed weekly journals documenting their experiences with informal learning at the worksite. These journals were kept after the employees had completed the formal workplace education program. Documents collected included job-related reading materials, examples of e-mail communications and descriptions of projects completed during the formal workplace education program and after the program at home. Employees recorded all of the different types of

informal learning activities that they participated in on a weekly basis for a period of a month in a journal. Interview data, results from the ELLI using frequency counts; field notes and worker journals collected over three months were developed into research narratives. The narratives were then subjected to a data coding process.

Four forms of data analysis were employed so as to make a detailed description of the case and its setting (Merriam, 2002). Categorical aggregation was the first technique used which produced a collection of instances and relevant meanings based on the coding scheme. The next procedure was the establishment of patterns and the correspondence between and among categories. For those single instances that did not fit into the patterns or did not help explain the relationship between categories, direct interpretation was used. As a final technique, generalizations from analyzing the data were developed into an implications section in the academic report for example. Finally, through the process of triangulation the different document data sources were used to corroborate the main findings and shed light on certain themes that emerged. Case studies were then written for each of the organizations which included a description of the company, the formal program and the workers' experiences with informal learning at the shop floor level. Separate databases from each country were developed and were used for comparable purposes.

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 organisational 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, 4 were selected for Anglo-Canadian comparisons, involving 42 employees, and 6 supervisors/tutors.

Types of Readership

The main readerships for this project are workplace literacy trainers, educators and literacy instructors. As discussed in the recent National Literacy Secretariat consultation on Research, practitioners have a need for a deeper understanding of the teaching and learning process occurring in program delivery. One way of achieving this goal is through professional development for instructors, which has been difficult to plan in a systematic way. At the heart of this project is information for the professional development of the workplace instructor and the enhancement of their practice specifically around how formal and infor-

mal types of training can be integrated. This project can also help workplace instructors become researchers and reflective practitioners who will in turn benefit learners – the second target group. Another benefit for the learners is that by understanding their own decisions and trigger events to engage in both formal and informal learning they will be able to better define their training plans and the strategies for lifelong learning. This will reinforce the idea that learning which occurs outside of a formal training program does in fact count. Other readership groups who could benefit from this project are the coordinators and administrators of the workplace program, union leaders and policy makers. These types of people can use the results of the project to enhance program delivery and quality and determine whether the impacts are best suited for making in roads at the local, provincial and federal policy levels.

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Appendix A

Interviewer _____

Date _____

LEARNER/EMPLOYEE

Semi-Structured Interview Schedule

Formal Training refers to the current workplace education program

1. Why did you want to take this program/course?
 - *What was your motivation?*
2. How do you learn the content in the program/course?
 - *Do you like to receive a lot of guidance from the instructor?*
 - *Do you prefer to spend more time working on your own or with other students?*
3. What benefits do you get from participating in this program/course?
 - *How does the course/program make your job more interesting?*
 - *What are the benefits of the course/program to the employer? Specific examples.*
 - *Look for other responses, such as discomfort from a lack of education, living up to others' expectations.*
4. What are you doing different at work as a result of this program/course?
 - *What did you do before in this situation?*
5. Does the course help you in your daily life outside of work?
 - *Are you doing anything different outside of work as a result of the course?*
6. Have you changed your mind about anything while you have been on the program/course?
7. Do you talk about the program/course to your boss or manager?
 - *What do they say?*



Informal Training refers to the learning going on outside the program but inside the workplace. It is not structured in terms of learning objectives, learning time or learning support. It may be intentional but sometimes it is incidental or random.

8. Recently, have you done any of these activities for the purpose of developing your job skills or to gain job-related knowledge? If so, explain
 - a) seeking advice from someone knowledgeable like your boss or co-worker
 - b) going to a meeting and learning something new
 - c) using the Internet or other software
 - d) observing someone performing a task such as budgeting, note keeping, filling in forms
 - e) consulting books or manuals
 - f) teaching yourself different ways of doing certain tasks
9. Are there any opportunities, committees at work, or places in the company that you can practice your new skills? Explain
10. How do you go about learning something informally?
 - *What materials, things or resources do you use to informally learn something work related?*
11. What motivates you to informally learn something new at work?
12. How do you apply this new learning back on the job?
13. How should you be given credit or recognized for this informal learning?
14. What are the benefits of informal learning for the company?
15. Is there anything or anyone in the work environment that helps you learn informally?
16. What does lifelong learning mean to you?



Appendix B

Interviewer _____

Date _____

TRAINER/INSTRUCTOR

Semi-Structured Interview Schedule

Formal Training refers to the current workplace education program or a workplace program taught in the recent past.

1. What should the learners expect to get from a workplace program in terms of their working lives?
2. What should the learners expect to get from the workplace program in terms of their personal lives?
3. Why are these learners enrolled in your program/course?
4. What are the reasons behind some learners being successful and others not?
5. How do you cope with classes made up from learners with different employment background/skill levels/languages?
6. Do you think the needs of the company and the educational needs of the learner are compatible in the program?



Informal Training refers to the learning going on outside the program but inside the workplace. It is not structured in terms of learning objectives, learning time or learning support. It may be intentional but sometimes it is incidental or random.

7. Are you aware of any informal learning that has occurred with your trainees? Describe.
8. Knowing your company/organization, where are the possible opportunities for employees to continue their informal learning? If so, explain.
 - a) through the workplace structure or committees
 - b) through leadership roles
 - c) through workplace policies or regulations
 - d) through workplace practices
 - e) others
9. How do you see formal training and informal training connected at your workplace?
10. What do you think triggers an employee to learn something informally? Give an example.
11. What are the tacit (unexpressed) skills or knowledge that are learned by an employee during an informal learning activity?
12. How do employees learn the unwritten rules/values of the workplace?
13. How should employees be given credit or recognized for informal learning?
14. What are the benefits of informal learning for the company and for the employees?
15. What strategies and techniques do employees use to learn something informally at work?



Appendix C

Worker Journal

The following five-page set-ups are for a worker journal. Preferably, the same worker that you interviewed will be involved in this journal writing data collection method. Since you will know these employees, it is better for you to decide how to modify the journal pages using the following page as a template.

Employee Biography

Name _____

(first name only or pseudonym)

Job title _____

How long have you been doing this job? _____

Describe your job (a title or short phrase) _____

What do you do when you're not at work? _____

Do you read anything? _____

Do you write anything? _____

Do you use the Internet? _____

Do you use math for anything? _____

Do you belong to any clubs or groups? _____

Have you belonged to any others in the past? _____

Do you have a partner? _____

Do you have children? _____

What age are they? _____



Week 1 - _____, _____ to _____, _____

Think back over the past few days at work.

- Did you ask for any advice from someone knowledgeable?
- Did you use the Internet at work?
- Did you observe someone perform a task?
- Did you consult any books or manuals?
- Did you teach yourself a different way to do a work task? If you did you have been learning informally at work.

Now write down a few ideas about that informal learning at work.

- What was it that you learned?
- How did you learn it?
- Who was involved in the learning?
- How did it help you do your job better?
- Where in the workplace did this learning happen?
- Did you run into any barriers or challenges when you tried to learn informally at work?



Week 2 – _____, _____ to _____, _____

Think back over the past few days at work.

- Did you ask for any advice from someone knowledgeable?
- Did you use the Internet at work?
- Did you observe someone perform a task?
- Did you consult any books or manuals?
- Did you teach yourself a different way to do a work task? If you did you have been learning informally at work.

Now write down a few ideas about that informal learning at work.

- What was it that you learned?
- How did you learn it?
- Who was involved in the learning?
- How did it help you do your job better?
- Where in the workplace did this learning happen?
- Did you run into any barriers or challenges when you tried to learn informally at work?



Week 3 – _____, _____ to _____, _____

Think back over the past few days at work.

- Did you ask for any advice from someone knowledgeable?
- Did you use the Internet at work?
- Did you observe someone perform a task?
- Did you consult any books or manuals?
- Did you teach yourself a different way to do a work task? If you did you have been learning informally at work.

Now write down a few ideas about that informal learning at work.

- What was it that you learned?
- How did you learn it?
- Who was involved in the learning?
- How did it help you do your job better?
- Where in the workplace did this learning happen?
- Did you run into any barriers or challenges when you tried to learn informally at work?



Week 4 – _____, _____ to _____, _____

Think back over the past few days at work.

- Did you ask for any advice from someone knowledgeable?
- Did you use the Internet at work?
- Did you observe someone perform a task?
- Did you consult any books or manuals?
- Did you teach yourself a different way to do a work task? If you did you have been learning informally at work.

Now write down a few ideas about that informal learning at work.

- What was it that you learned?
- How did you learn it?
- Who was involved in the learning?
- How did it help you do your job better?
- Where in the workplace did this learning happen?
- Did you run into any barriers or challenges when you tried to learn informally at work?



Annexe D



Where am I with my learning power?

The Effective Lifelong Learning Inventory

Surname: _____

First name: _____

Employer: _____

Training provider: _____

Course: _____

Date: _____

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All your answers will remain anonymous (no names will be used) and confidential (nothing you say will be repeated or passed on to your tutor, other students or anyone else). Your scores will be used by our team of researchers only for research purposes.



Welcome to this learning power investigation!

Learning power is what helps you to be an effective learner. It is about being excited about learning, finding out about how you learn and how to get better at learning. Learning power is something you can develop at home, with your friends, at college – in fact it can be developed all the time and everywhere.

These questions are all about how we learn, our feelings about learning and the ways in which we can find out how to be better learners.

We hope that answering these questions will make you think about how you learn and how you can become a better learner.

Before you fill in the questionnaire

Think about the last few weeks and the things you have learned. You may have learned some new ideas, or a new skill or you may have learned something new about a person, or about the world or about technology. You may have learned a lot at home, or when you are with your friends, or when you have been doing things you like. You may have learned a lot in college. We are interested in ALL of the ways in which you learn and ALL of the places where learning happens for you.



How to answer this questionnaire

IS THIS LIKE YOU?

Please read each question carefully. Beside each question are four boxes that look like this:

No, not at all like me	A little bit like me	Quite a lot like me	Yes, very much like me
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Tick the box that is most like your answer to each question. For example if you think that something is not at all like you, then tick the first box. If you think something is very much like you, tick the last box, and so on.

Remember this is not a test, and there are no right or wrong answers - just try to be honest. Simply answer the questions and don't spend too much time thinking about the answer.



	No, not at all like me	A little bit like me	Quite a lot like me	Yes, very much like me
1 I like it when I have to try really hard to understand something.				
2 When I am really interested in something I find it easy to learn.				
3 I like to question the things that I am learning.				
4 Getting to the bottom of things is more important to me than getting a certificate.				
5 When I am learning something new I try to think of other things that I have already learned.				
6 I sometimes do something different when I am learning just to see what will happen.				
7 If I get stuck with a learning task I can usually think of something to do to get round the problem.				
8 I usually know whether I am going to find something easy or hard to learn.				
9 When learning is hard, it's usually because I didn't have enough help.				
10 Stories help me in my learning.				
11 I often have a good idea of how long something is going to take me to learn.				



	No, not at all like me	A little bit like me	Quite a lot like me	Yes, very much like me
12 When I'm stuck I don't usually know what to do about it.				
13 I prefer an interesting question to an easy answer.				
14 I tend to avoid trying to learn new things because I don't like feeling confused and uncertain.				
15 I like to think things out logically and carefully when I'm learning.				
16 When I'm not able to master something, it's usually because I don't know how to go about it.				
17 I like it when I can make connections between new things I am learning and things I already know.				
18 I like to try out new learning in different ways.				
19 When I find learning boring I can usually find a way to make it interesting.				
20 I like to have a good reason to learn something.				
21 I often use my imagination when I'm learning.				
22 If I wait quietly, good ideas sometimes just come to me.				



	No, not at all like me	A little bit like me	Quite a lot like me	Yes, very much like me
23 When I don't understand something I tend to struggle with it for a while.				
24 When learning is hard, I tend to find it interesting.				
25 I like learning new things when I can see how they make sense for me in my life.				
26 When I have to struggle to learn something I think it's probably because I'm not very clever.				
27 I like to learn about things that really matter to me.				
28 When I learn things well it's usually because I had plenty of help.				
29 I'm continually improving as a learner.				
30 I get my best ideas when I just let my mind float free.				
31 I can feel myself improving as a learner.				
32 I don't like to accept an answer till I've worked it out for myself.				
33 I like facing new challenges.				
34 It is important to respect other people's views even if they are different from mine.				



	No, not at all like me	A little bit like me	Quite a lot like me	Yes, very much like me
35 The best teachers help me to think.				
36 I feel it's OK to try different things out in my learning.				
37 I expect to go on learning for a long time.				
38 My learning ability stays pretty much the same.				
39 When I have trouble learning something I tend to get upset.				
40 If I do get upset when I'm learning, I'm quite good at making myself feel better.				
41 Sometimes when I start a task I don't know what I am going to do until I see my friends getting on with it.				
42 I like to be able to improve the way I do things.				
43 I often change the way I do things as a result of what I have learned.				
44 I find it difficult when my teacher criticises my work.				

Thank you for filling in this questionnaire