Learners Without Borders (Les apprenants sans frontières): Transgressing the Formal and Informal Learning Boundaries

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Introduction

"You forget about education when you are working all these years, and then I realized I learn new things everyday. After all these years I'm still learning."

This realization, put into words by Dianne, a Boeing Winnipeg employee, mirrors the sentiment expressed by fellow workplace learners as they reflected on their learning experiences of both a formal and informal nature. This inward look revealed for them, and provided me with insights into the processes surrounding their vast learning at the workplace. And exactly what do those insights uncover about possible connections, or pathways that form as one learns through both formal and informal means? This case study is in response to this question. Data collection for this study was achieved through interviews and journal keeping of three workplace learners, Dianne, Pamela, and Dave, two workplace instructor interviews, and by administering the Effective Lifelong Learning Inventory (ELLI) survey to an additional 16 workers, from which a random sampling of responses was used.

Background information

In 2003, workers at the Winnipeg plant of Boeing Canada Technology, which is an aerospace company that manufactures commercial and military aircraft worldwide, asked for the opportunity to earn their high school diploma through courses offered in the workplace. This interest was the impetus for Boeing Winnipeg to develop a program to allow workers to achieve this goal. Since high school graduation was not a condition of employment at Boeing Winnipeg before 1997, this interest in graduation voiced from the factory floor was not in response to a company demand for pre-1997 hires to satisfy this education level. Individual motivation for achieving this goal stemmed from a variety of personal and external situations, as in any adult education program.

In partnership with a local adult learning centre, the Manitoba government departments of Adult Learning and Literacy and Labour and Immigration, and the local Aerospace Sector Council, the Boeing Mature Student Diploma (MSD) program was developed. In early 2004

it was underway, offering grade twelve level courses that were selected to not only satisfy provincial graduation requirements, but also to use material that allowed learners to make connections to their work, daily life, and prior knowledge and skills. This concept was taken one step further, as each of the courses were developed to include 50% of the content using Boeing related material. This incorporation of "company" material within the course content includes Boeing stock market analysis and a report on the history of Boeing. It also looks at the "LEAN" concept which is the philosophy and practice behind Boeing's manufacturing process, the use of Boeing images in graphics, letters and memos addressing workplace issues, and a long term project that fits in with the Boeing workspace. This practice provides relevancy to the learners and eases transfer of learning.

An important aspect of this work place MSD program is the use of Prior Learning Assessment and Recognition (PLAR) credits. This process of identifying, documenting, assessing and recognizing what a worker knows and can do has been very successful at Boeing. PLAR for credit in the established grade twelve courses in Aerospace Technology and Management is an ideal link between workplace learning and academic credit.

The way in which I feel I can best convey an understanding of the information gained through the data collection process is from a temporal perspective. That is to say, a learning journey that is described chronologically, with events placed along a time line. The broad categories are (1) Initial Worker Decisions and Motivators, (2) Changes that Occurred During the Program, (3) A Springboard to Recent Informal Learning, and (4) Looking Ahead Down the Learning Path. These provide a continuum in which the learning paths of those who participated in the study unfolds. Trigger events and decision making about learning, acquisition of incidental skills and knowledge, and thoughts on lifelong learning and work appear along such a path. My title reference to transgression of boundaries maintains that although learners follow a continuum in their learning, the path is not formed in distinct, separate lines. Considerable crossover and mingling of all learning types form the base of knowledge and skills one acquires as they move along this path.

Initial worker decisions and motivators

Step one of the journey is the decision to become involved with formal training. Why would a worker do so when this was not a condition of continued employment or advancement? The foremost reason was to achieve grade twelve graduation. As one learner said she "…wanted to finish something I left behind all those years ago."

Another claimed: "I wanted it for a long time and the opportunity was great."

This need to "finish up old business" was further prompted by societal and family pressures, such as solid modeling to children and, as expressed by all interviewees, a realization that things were forever changing and moving ahead. This jump-started a need to "find out a

better practice", and sharpen skills as they had all been out of school for some time. This need for personal upgrading was recognized by both non-graduates and graduates taking part in the study.

Workplace instructors affirmed this desire for employees to achieve the long term goal of graduation as well as skill upgrading. They also agreed with one learner's comment about the logistical ease of formal training when classes are on-site and company supported, and how this supportive environment acts as a further incentive for workers to engage in the formal classroom instruction. Additional reasons also focused on the ideas that such training is seen as opportunity for advancement, both within the job and by opening doors to further educational opportunities.

In the instance of English language training at work, the need for communication between workers and their co-workers and supervisors presented a crucial and immediate reason for formal training, as one instructor pointed out. Generally speaking, the immediacy of the need for this type of training is very much present within the manufacturing workplace setting.

Despite the decision to embrace formal learning, all three learners interviewed admitted to feelings of dread prior to entering the classroom, all for the first time in recent years. As one learner admitted,

> "I didn't like the old methods way back when… I thought this would be more of the same."

Another learner's concern focused on unknown course content and the uncertainty of her ability to learn formally after many years out of the classroom.

Changes that occurred during the program

Once present in a formal training milieu, learners found that visual learning was their preferred style for understanding content. For two of the three learners, a close connection with the instructor and small group class members increased their comfort level and ability to grasp material presented. Working independently in the classroom was not considered ideal for these learners, possibly due to a link between their former lack of academic success and a detachment from teachers and peers. The third participant preferred guidance to a point, then chose to work autonomously until further clarification of the assignment was necessary. In this case, past formal learning *had* yielded success; this is a contributing factor to his preferred learning methods.

Workplace instructors believed that learner success was dependent on a combination of factors, including support at home and within the company, through co-workers and supervisors and a connection between course content and work application. However, factors that were considered fundamental to success were attitude, commitment, and a desire to learn.

As formal classroom learning proceeded, learners reported that initial feelings of reservation regarding their involvement in the program shifted to acceptance, then enjoyment

in the challenge of learning, and ultimately to pride in their accomplishments. Company support along with manager interest and encouragement added to the positive learning experience. One participant reported her manager's support and respect in this way, "…he said, 'Good for you', and helped me out with a few math and computer questions."

This same learner found that the value in her formal course work was transgressing the boundary of classroom application. Learning how to access information in the formal program made her a "better member of the team" back on the shop floor, as she found herself "better at asking, and knowing where to look" for information. At this point along this learner's path we see a positive relationship forming between the formal and informal learning. In other words, there is a crossover from the classroom to the informal workplace setting and the use of informal learning opportunities.

A springboard to recent informal learning

A common theme of confidence was voiced by the learners once formal training was completed. When questioned as to what differences they found at work following formal training, all three interviewees reported increased communication skills, but more importantly, the confidence to use these skills. One learner claimed this is "…a great achievement after being out of school for thirty plus years." An earlier lack of identification with a group of formally educated individuals to which she previously did not belong, was seen as a remote likelihood. This new inclusion has given rise to increased confidence, and indeed has acted as a springboard into workplace activity that was formerly seen as risky. Speaking up at crew meetings to add personal insights, sitting on committees and taking a lead role within committee work, such as United Way Campaign work is now part of this employee's workplace contribution. She went on to say that although the course content was not directly applicable to her work tasks, "the difference is that I have the desire to continue with more learning when time permits."

It seems that the formal training was the reference point which encouraged the informal training. This same worker listed a number of new ways of learning back at her work station. Seeking advice from experienced co-workers on inspection, quality standards, conformance with blueprints and drawing specs, and attending bi-monthly crew meetings and learning from others' comments and questions about new procedures in quality inspection were some types of informal learning she mentioned. Additionally, consulting the Internet and Boeing web "redars" for procedures and specs were new ways of learning. The other learner interviewees concurred with these types of informal training activities as well, citing involvement at crew meetings, consultation of manuals, and increased ability to access information. Seeking new ways to carry out familiar assembly procedures and appealing to others for input and feedback was a new practice for one learner. One employee suggested that co-workers help in the informal learning process.

"I learn form their technical ability and I take this to others to dispel myths. Internet and conferences are good, but secondary."

As indicated above, findings in the learner journals reflected use of the Internet and books and manuals as informal training tools. However, a connection with peers, through seeking advice, observing and discussing, was a stronger indication of learning success. While various tasks and ways to perform these tasks were learned, one worker claimed that such interaction made him think of parallel issues which heightened his learning. In analyzing the root cause of a workplace problem, investigation involves communication with management, co-workers and outside sources. This reveals the whole picture, and the solution to the problem often comes as a result of seeing similar aspects in other, former problematic situations.

Instructors claimed that observation of tasks was an important tool in informal learning. One instructor observed that workers consulted trusted peers, examined others' work and considered consequences of misstep. All of these contributed to this "osmotic" process of informal learning, and solidified the understanding of workplace values. Another instructor offered that co-workers' opinions and actions toward them as well as the supervisors' meetings regarding proper work procedures contributed to this knowledge base.

Motivation of learners is spurred by a need for a challenge or variety, for the enjoyment of learning something new as well as recognizing the need to keep current with new technology and methods. Interestingly, learners did not report that this impetus for utilizing new learning in the work environment was for monetary reward or the possibilities of upward mobility. Although one workplace instructor suggested an in house reward system as appropriate recognition for informal learning, the workers failed to comment on this. A spoken message of thanks from co-workers and managers was the immediate and unanimous response from all learners, when asked about the appropriate ways to be recognized for a job well done. This is seen as far preferable to monetary reward. As one leaner expressed:

"If it is a gift, or monetary, then the focus is the gift, not the goal."

A sampling of learner responses from the ELLI survey upholds the above stated need for challenge. For example, responses to those questions targeting imagination and creativity by and large indicated a connection with learning a new task through their own reliance on free thinking skills and optional ways to approach a task. The questions focusing on dependency elicited responses that were in keeping with this attitude as well, with workers minimally dependant on others when tasked with figuring out a solution to a new problem. Respondents saw challenge as a positive thing when they indicated their preferences in the "growth" questions category. They also identified success by having the confidence to question, modify or change for the sake of improvement. Is this ability to do their jobs in creative and solution-focused ways underpinned by confidence gained in other successful learning situations at the workplace? It would appear so.

Two of the three learner interviewees agreed that outside of work they have ample opportunity to practice their new skills in their volunteer work such as in the United Way writing for donations, on a health and safety committee, and in dragon boat fund raising. The ability to access information from the Internet, open discussion with co-workers and supervisors, technical manuals and attendance at meetings were cited as very beneficial. The process of accessing information has also sharpened writing and speaking skills. As one learner believes, he is

> "…more specific in my communication skills. I ask more specific questions and get what I need…. communication is our biggest breakdown – now I am more precise."

Looking ahead down the learning path

As can be seen, these workers have changed their learning behaviors that have occurred inside and outside of the classroom. They were also asked for their perceptions of ongoing, or lifelong learning, and how this will play a part in their future. Where do learners see themselves along this learning path stretching ahead?

Dianne says it is,

> "seeing different things out there, such as carpentry, courses to fix things, and watching and observing as a way of learning forever."

Dianne's "forever" is a result of both the formal and informal; crossover from one realm to the next happens easily in her learning. Pam marries the strength of her success in her formal education with the potential of her informal learning:

> "Lifelong learning is never stopping. You are learning something new at all times, whether it is small or not small. It's great to go out there and try something new. I'm in a better position to challenge most things now that I have that piece of paper, whether at Boeing or somewhere else."

In a similar way, one workplace instructor described it by saying, "formal training provides tools to open the door for informal learning."

Dave, another employee sees lifelong learning as the constant need to upgrade, as "things are changing all the time and we need to keep up." He includes his volunteer work with sports teams, his union involvement with the Federation of Labour, and his workplace health and safety committees as a "huge" part of his lifelong learning.

Personal insights

Upon exploration of these two focus realms of learning – formal and informal, some insights may be drawn. The first is that informal learning is a multifaceted entity, encompassing a range of activities that could be considered in the following definition:

Informal learning is knowledge and skills gained through self generated acts, to help further understanding and/or increased skill of a task or tasks. These "acts" include observation, listening, reading, mentoring, group membership interaction, and attempting/experimenting with tasks.

Founded on the data collected, I have been provided with answers to questions about workplace learning. I have gained some insights into the process that instructors and learners see as important steps along their learning paths. It appears that the new talents that employees bring to their workplace stems from learning through both the informal and formal training means. Each of these ways to learn cannot be seen as mutually exclusive when enhancing the "knowledge" required for a workplace, activity or procedure. We can see that the ability and natural evolution of the ways we come to know incorporates all manner of learning. This body of knowledge and skills incorporates both technical and soft skills. Assembly procedures, blueprint reading, document navigation and computer literacy name only some of the many technical skills. Soft skills include evidence of pride, problem solving, co-operation, innovation, initiative and self-confidence. The skills and knowledge an employee gains is borne out of a coming together of both formal and informal knowledge. In the case of the Boeing workers, the formal training experience acted as a confidence booster that led to an increased willingness to consider the possibilities and new practices of informal learning, consciously and unconsciously. As learning transgresses the boundaries of the formal and informal, there is a movement that is interwoven and mutually supported. The end result is a learning path that is broad and rich indeed.