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ORIGINAL PAPER

The role of work-related learning in the identity transformation of Canadian workers with low literacy skills

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Abstract Workplaces are settings where power, knowledge and self are brought together in a complex social environment which includes various forms of struggle related to identity, agency, socio-cultural norms, political structures and functional practices. The purpose of this article is to uncover how formal and informal work-related learning processes influence the identity transformation of workers with low literacy and essential skills. Drawing on two recent Canadian data bases which serve as cases in this study, the position taken by the authors is that the organisational context can both facilitate and impede worker subjectivity. Various conditions, approaches to learning and training pathways are examined as they contribute to social cognitive and transformative learning theories.

Keywords Worker subjectivity · Identity transformation · Work-related learning · Literacy and essential skills

Résumé Rôle de l'apprentissage pour le travail dans l'évolution identitaire de travailleurs canadiens peu alphabétisés – Les lieux de travail sont des contextes qui réunissent le pouvoir, le savoir et l'identité dans un environnement social complexe renfermant diverses formes de lutte liées à l'identité, l'agentivité, aux normes socioculturelles, structures politiques et pratiques fonctionnelles. Les auteurs de cet article ont pour objectif de présenter dans quelle mesure les démarches d'apprentissage formel et informel en situation de travail influencent l'évolution identitaire

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des travailleurs ayant un faible niveau d'alphabétisme et de compétences fondamentales. S'appuyant sur deux nouvelles banques de données canadiennes qui ont fourni les cas pour cette étude, les auteurs en déduisent que le contexte organisationnel peut à la fois faciliter et entraver la subjectivité du travailleur. Ils examinent diverses conditions, approches de l'apprentissage et parcours de formation, car ces facteurs contribuent aux théories sur l'apprentissage social cognitif et transformateur.

Work-related learning, both formal and informal, has recently taken on new meanings in Canada due to concerted government and granting council initiatives intended to broaden an understanding of the lifelong learning process and increase skills levels for different types of workers.[1] However as Laurent Filliettaz (2013) points out, learning in and through work is not only about the acquisition of practical knowledge and skills; it also entails the processes of identity construction and the subjectivity of workers within contemporary organisations. According to Stephen Billett (2010), subjectivity, or the role of self, can be explained through relationships between individuals, their work, and their learning for work. Also connected to workplace learning and the role of self is an understanding of what motivates, directs and sustains worker learning. But in trying to explain worker subjectivity, a fundamental dilemma persists. Workers with higher educational attainment have greater access to workplace learning opportunities and incentives than do workers with lower literacy and essential skills (Rainbird 2000; Canadian Council on Learning 2011). Because of this imbalance in workplace learning opportunities, unravelling worker subjectivity for the disadvantaged employee requires a different perspective.

It would appear that for workers with low literacy, the processes of learning through and for work are quite distinctive and may impact their identity construction, subjectivity and transformation. For example, it has been reported elsewhere (Taylor et al. 2013) that measures of social capital are intrinsic to the adult learning process as Canadian-born and immigrant workers with low skills begin to realise the social outcomes after participating in a literacy training programme. In addition, we (ibid.) investigated the lifelong learning process for workers who completed a literacy and essential skills programme in different parts of Canada and found that there are specific motivators for engaging in formal, non-formal and informal learning (Taylor et al. 2014). These workers also tended to possess both the resources and readiness to continue their lifelong learning in less formal work settings. Furthering the line of inquiry with this worker population in an earlier joint paper (Taylor et al. 2014), we have also attempted to determine whether an association existed between the adult learner assets of "social capital" and "readiness for self-directed learning". Although results indicated evidence for only a weak association between the constructs, lack of organisational recognition may have had a bearing on worker beliefs and efficacy to pursue learning initiatives

[1] In this paper, the term "worker" designates employees whose jobs are of a manual nature (blue-collar) The term worker and employee are used interchangeably.

on their own. Through the lens of intrinsic motivators, two of us (Taylor and Trumpower 2014) have also studied the various conditions of engagement for adult learners with low skills who were seeking job entry in a formal training environment. Mutual respect, a positive learning disposition, meaningful learning activities and a belief in one's own ability to succeed were important motivators in the teaching and learning process. Taken together, these studies provide some early evidence that what initiates, directs and sustains individuals' learning throughout their working lives may be different for workers with low literacy and essential skills.

Coupled with this distinct role of worker self is the fact that the theoretical underpinnings for explaining the experiences of employees with low literacy in formal and informal workplace learning environments have been somewhat limited (Taylor 2006). However, Filliettaz (2013, p. 110) maintains that social theories of learning have recurrently underlined the collective and distributed nature of learning processes and for configuring the ways in which individuals access and internalise knowledge and develop skills. In a similar vein, ideas drawn from socio-cultural approaches such as the Vygotskian concept of the zone of proximal development, cognitive apprenticeship, communities of practice and situated learning have been used to shed some light on the learning processes for workers and adult learners with low literacy (Taylor et al. 2010; Taylor and Evans 2009; Taylor et al. 2007). Building on this foundational work, two recent national projects have further endeavoured to investigate the learning trajectories of low-skilled workers and adults seeking entry into the labour market through various pathways. Drawing upon these two data sources, the purpose of this article is to uncover how formal and informal work-related learning processes influence the identity transformation of workers with low literacy and essential skills. It is central to this purpose that we take the position that organisational context can both facilitate and impede worker subjectivity. By focusing on various conditions, approaches to learning and training pathways, this article examines how these factors contribute to transformative learning experiences and worker identity. Following a brief synopsis of literacy and essential skills in Canadian workers, we describe the two projects which served as cases in this study and analyse the factors impacting worker subjectivity. We conclude with a discussion of our findings as seen through Social Cognitive and Transformative Learning theories.

The meaning of literacy and essential skills for workers in Canada

Essential skills describe functional tasks, enabling educators to discuss skills gaps with employers, employees and service providers using a common language (Essential Skills Ontario 2012). In profiling the worker population discussed in this article, literacy and essential skills are drawn from findings of the 1994 International Adult Literacy Survey (IALS) and the 2003 International Adult Literacy and Life Skills Survey (IALLSS) which demonstrated that literacy skills are clearly linked with education, employment remuneration and employment status (Statistics

Canada 2005). Five competence levels were delineated for the four domains of prose literacy, document literacy, numeracy and problem-solving.

According to Statistics Canada (2005), individuals with minimal literacy skills are considered to be at the lowest level of mastery (Level 1), whereas individuals at Level 2 can comprehend basic material but may experience difficulty with more complex concepts. Level 3 is considered "the minimum 'desired level' of competence for coping with the increasing skills demands of the emerging knowledge and information economy" (p. 9). As Essential Skills Ontario (2012) explains, "it is generally accepted that individuals who can demonstrate competency with Level 3 tasks are able to manage the demands of daily life and of most entry-level jobs" (p. 1). Levels 4 and 5 define adults with the highest levels of mastery, beyond the high school level. The low-skilled workers and adults seeking re-entry into the labour market considered in this article fall into Levels 2 and 3.

Concurrently, Human Resources and Skills Development Canada (HRSDC) produced essential skills profiles of several hundred occupations and constructed complexity ratings for other skills areas not measured by the IALS. These profiles, which reflect the demands of jobs within their sectors, are often used with occupational standards to develop technical training programmes. Essential skills are described as those needed for work, learning and life, identifying nine specific skills areas: reading, writing, numeracy, information management, problem solving, working with others, effective communication, use of digital technology and continuous learning. Work-related learning, both formal and informal, encompasses many of these essential skills. Such was the case for participants in this study, which highlighted three main learning trajectories: employee work-related formal on-the-job training, employee work-related informal learning in various learning spaces, and adult trainee preparation for labour market re-entry.

Methodology

The data for the present study were drawn from the two projects described below.

Workers and the Lifelong Learning Project (2010–2014)

This four-year project investigated aspects of formal, non-formal and informal learning for workers and adult trainees seeking literacy and essential skills utilising a mixed-methods research design. Data were collected from four sites in Western Canada (Manitoba), two in Eastern Canada (Nova Scotia), and one in Central Canada (Ontario). Data collection in Manitoba and Nova Scotia was facilitated through two government-funded associations which provide essential skills training services, Workplace Education Manitoba and the Association of Workplace Educators of Nova Scotia, who provided access to various non-formal and informal workplace learning programmes. Data collection in Ontario took place in an adult high school which provides credit and non-credit educational and training programmes with work placement components. The participants were 32 employees

of the workplace programmes upgrading their essential skills and 63 adult high school trainees seeking job re-entry.

All 95 participants completed the Social Capital Inventory (SCI) (Taylor et al. 2012), the Self-Directed Learning Readiness Scale (SDLRS) (Guglielmino & Associates 2012), and a biographical information questionnaire. The instruments measured network resources and readiness to learn, important qualities associated with lifelong learning, especially in the ill-defined area of informal learning. Face-to-face semi-structured interviews were also conducted with a subset of 39 participants, as well as with 10 instructors from the various programmes.

The constant comparative technique was used to identify patterns in the narratives developed from the interview transcripts (Merriam 2002). Descriptive statistics and analyses of potential relationships between scores on the SCI, SDLRS, and biographical data were also conducted (Taylor and Trumpower 2014; Taylor et al. 2013).

Developing a National Framework for Essential Skills (2010–2013)

This three-year project examined exemplary practice in essential skills training offered by employers and community colleges as a way of catalysing system change through evidence-based interventions. For this project, a participatory action research methodology (Stringer 2008; Mills 2011) was adopted.

The project design entailed four phases. During the preparatory phase, the focus was on identifying existing essential skills practices. Employment, training and learning issues facing target clienteles such as older workers, immigrants and aboriginals were also identified. This resulted in development of an initial national framework on effective essential skills practice. During the second phase, this framework, referred to as the Integrated Approach to Developing Essential Skills, was piloted by 9 workplace sites and 17 community colleges across Canada. During the third phase, field notes, observations and journal entries were gathered from each essential skills practitioner conducting the pilot project. Quantitative data were also collected at each site. At intake, workers and students completed a learner profile followed by the Test of Workplace Essential Skills (TOWES) which measured prose literacy, document literacy, numeracy and oral fluency. Then, in the fourth phase, each practitioner developed an essential skills intervention ranging from 24–40 hours of instruction blended into the normal programme course/curriculum. Types of interventions varied from study skills sessions to online training where reading, summarising and presenting tasks were drawn from authentic workplace documents. Following training, the TOWES was administered again with a learner satisfaction questionnaire. Between four and six months later, the TOWES was administered for a third time (or, in some instances, the Canadian Learning Evaluation [CLE]), accompanied by an impact questionnaire. Overall, 107 learners completed all data collection sweeps.

Statistical analysis was performed to identify which types of interventions led to skills gains and under what conditions. A content analysis (Maxwell 2013) was also performed and 10 case studies were written. Further analyses were performed by Taylor and Tashereau (2014).

Secondary data analyses

A comprehensive understanding of identity transformation of workers and the influence of organisational context in work-related learning programmes requires consideration of the role of self or subjectivity. The various conditions, approaches to learning and training pathways in each of the two cases was examined in search of a better understanding of workplace learning, subjectivity and identity. Due to distinctions in the databases, we take a slightly different approach in reporting our findings in each of these two cases. Statements obtained from both workers and instructors in the *Workers and the Lifelong Learning project* were the main focus of our analysis in Case 1, whereas the participatory action research methodology utilised in the *Developing a National Framework for Essential Skills* project led to a rich description and analysis of the various elements of the programmes involved in Case 2.

Results

Case 1 – Workers and the Lifelong Learning Project (2010–2014)

This case explores workers and adult trainees within three different organisational contexts, including a non-formal workplace essential skills training facility in Western Canada, a non-formal onsite workplace education programme in Eastern Canada, and both formal and non-formal programmes in an adult high school in Central Canada. The programmes focused on upgrading and essential skills training. Adults enrolled in the programmes followed one of several learning trajectories: they were acquiring skills to either improve their current work performance, take advantage of new work opportunities, or re-enter the job market. Potential influences of the three different organisational contexts on worker subjectivity, as well as learner motivations and approaches to learning, are examined through the accounts of both instructors and learners in this case (Table 1).

Organisational context

The three programmes were somewhat differently situated. Nonetheless, organisational context seemed to play an important role in enabling learning in each programme. The programmes in Western and Eastern Canada have had strong provincial funding over two or more decades which has allowed for substantial programme and curriculum development. The solid infrastructure and longevity of these programmes has also established public awareness and relationships with employers. Such contextual factors have led to a programme maturity which may be reflected in the instructors' approaches to learning which indicate their understanding of the importance of both work-related and lifelong learning skills which breed confidence within and outside of the workplace.

The adult high school in Central Canada has also received strong financial support, by way of joint funding through specific provincial funding mechanisms for

its various credit and non-credit training programmes. Moreover, involvement of school principals, certified teachers and workplace education supervisors in this setting has resulted in an awareness of the need for foundational programming before grade 12 certification, and may be associated with a variety of approaches to learning which emphasise achievement of basic academic skills, occupation-specific skills, and building of self-esteem.

Thus, although all three programmes were situated within different contexts, instructor interviews highlighted approaches to learning which indicate their understanding of varied training goals, including work-specific and more generally applicable skills and outcomes. For example, when asked what the learners should expect to get from the programme for their working lives, the instructor from the workplace essential skills training facility emphasised work skills, but also skills which supported lifelong learning and "enrichment." The instructor statements from the on-site workplace programme similarly referred to approaches to learning which acknowledge both specific work-related training targets such as increased job knowledge, job satisfaction and loyalty towards the company, as well as other goals of training which apply more generally within and outside of the workplace such as increased confidence and wellness.

In the adult high school, which included both formal and non-formal programmes, the goals of the five instructors interviewed tended to be specific to an occupation, such as custodial jobs, or related to foundational academic achievements, such as ability to read instructions, increased literacy and work skills, and to understanding workplace culture. These instructors stressed the skills and habits needed to prepare learners for the next phase of their job or career path, but also recognised that, particularly for those in transition, a critical part of the programme was to help build self-esteem and confidence. This understanding of the multiple and varied needs of trainees which extend beyond the workplace and classroom was apparent in one instructor's recognition that

> Each learner needs something different, some are seeking a career change or promotion, some have not been in the workforce for a long period of time, some are new to Canada, and some are just looking for a change.

Likewise, another instructor commented that

> They all have separate learning plans, we develop individualised learning plans, they want more money for their time at work, they want life fulfillment, they know we have the tools they need to meet their goals, it is sometimes a social outlet, we build professional relationships, they see this as a stepping stone and we are a foundation.

From the learner's viewpoint, being able to engage in a classroom experience which is relevant to their employment was echoed in a majority of the comments from the workers and adult trainees. In examining the specifics of the learning environment and approaches used in all three settings, it appears that a combination of instructor-led activity, self-study, group activity and discussion was used. Workers and trainees were encouraged to extend their learning outside the classroom into other aspects of their lives; they identified instances of self-direction and increased social learning. For

example, one employee who had just completed the non-formal workplace programme described how he learned to use the Internet on his own and could now make charts and templates. Another worker declared that she had learned how to use a new software programme on forecasting revenues through sales from a co-worker.

But the emphasis on multiple goals and use of varied approaches to learning were only part of the training. The instructors also seemed to set a positive tone and appeared supportive and motivating. Most learners seemed to appreciate the effort of the instructors and valued the ways in which the instructors provided additional support beyond delivery of the curriculum, as reflected by the following statement from one adult trainee, "Teachers help to ease my anxiety to make me feel comfortable. The teachers want the best for you." Another of the adult trainees similarly noted,

> I'm a new immigrant to Canada and have been here for six months now and I have foreign credentials. I need to start a new career and I need to start someplace. I don't want to be left behind. My teacher says I have personal motivation. She recognises my efforts and I feel she respects me as a person trying to make my way in life. I appreciate this.

Notwithstanding these seemingly positive reports, one comment suggests that not all learners were positively engaged. In the essential skills programme, an individual stated, "WCB [Workers Compensation Board] makes me be here." This suggests that obligatory participation could potentially be an impediment to worker motivation and subjectivity. One additional impediment noted in the programmes organised by the Association of Workplace Educators of Nova Scotia was delays in provincial funding which affected the availability of instructors and, consequently, impacted the experience of learners. When the alignment of funding, instructor expertise and worker availability do not match up, the entire workplace learning enterprise can become dismantled.

In general, all three organisational contexts appear to have been designed to support the workers' and adult trainees' academic, job or career goals. Within both the formal and non-formal programmes, instructors seemed inspiring and supportive of learner's goals. They used various techniques to support individual learning and encouraged learners to support their own learning both alone and within groups. While emphasising a curriculum relevant to learners' employment, the instructors also supported learners' self-esteem and confidence. These efforts seemed to enable most learners to become fully engaged in their learning both within and outside of the formal and non-formal learning contexts.

Learning motivations

Irrespective of whether they were participating in formal or non-formal programmes, learners were enrolled to primarily achieve some form of employment-related outcome which would either improve their abilities within their current employment, allow them to change their career path, or re-enter the job market. Numerous trainees declared that they had specific employment or career goals in mind. For example, one trainee looking to change her career path stated,

> When I turned 25, I realised I didn't want to be a waitress for the rest of my life, so I joined up at this school. I hope to get my high school diploma and then go to university to be a teacher.

Another trainee wishing to re-enter the workforce explained, "I need to finish my high school first. I want to become a police officer or a teacher. This is a good place for me to think about it more", while a worker hoping to improve their standing in their current employment simply stated, "I wanted to better fit the position of Quality Inspector." Others had less specific goals, but were likewise motivated to obtain training which would eventually lead to a career change, as evidenced by the trainee who, "… wanted to get back into it [school] again with the thought of doing another course to change my career", or would allow an opportunity to re-enter the job market, as was the case for the learner who, "… knew right off that this was for me. I didn't mind starting off as a janitor because I knew I could progress. I just needed to find out how to get my foot in the door."

While the primary motivation for many learners was to gain knowledge and skills which would be directly useful in performing jobs in their current or future careers, some further recognised that training outcomes could apply to a variety of contexts, such as the trainee who wanted "… to learn to establish work habits that are expected in any workplace; things like consistent attendance, punctuality, and basic problem solving skills." Others recognised that such outcomes can lead to improved confidence and a sense of self-worth, such as the trainee who, following training, reported, "Learning that I could sit down and read slowly and take the time to do it, enlightens and helps me to understand much more (e.g. Mathematics in my position); [My] confidence has gone up", or the other who stated that "I find my routine is more structured now. I want to get up in the morning. I feel accomplished."

Beyond the learning trajectories related to instrumental outcomes of essential skills and employment upgrading, a number of learners revealed that the training provided them with greater personal insight and influenced other aspects of their lives, referencing non-work identities. This can be seen in the trainee who was motivated, "For personal achievement. For my kids – to send them the message that it is never too late to learn/relearn." Perhaps the most vivid indications of how training influenced identity awareness and/or transformation were observed in the learners who noted,

> What benefitted me the most about this programme was that I now have a better understanding of who I am as a person. I am figuring out that everyone here is different, they have different qualities and different ways of learning,

and,

> I really like certain courses such as my course on Aboriginal beliefs and values. It influences my own beliefs and values that I didn't know I had. It's changing my opinion and the way I see the world.

For the most part, initial worker motivations involved improving work performance on the job or contributing to short- or long-term job and career goals. The learning outcomes included increasing knowledge and skills to better support a variety of

work contexts. Beyond the employment-specific nature of the training and instrumental outcomes, they found the learning extending into their daily lives; intentions and outcomes expressed included subtle to significant changes to individual perspectives and alluded to non-work identities.

Case 2 – Developing a National Framework for Essential Skills (2010 –2013)

In describing this case, two organisational contexts which may affect worker subjectivity are identified. The first organisational context is that of the workplace with a particular focus on the following employment sectors: resource and energy; residential construction; steel manufacturing and long-term homecare services located in Western, Central and Atlantic Canada. The second organisational context is that of the community college system of applied arts and technology located in the provinces of British Columbia, Saskatchewan, Ontario and Newfoundland. Within these contexts, we consider three learning trajectories, giving particular attention to conditions of the organisational context, approaches to learning and training, and which practices used by the learners facilitated or impeded worker subjectivity (Table 1).

Table 1 Factors influencing worker learning and identity transformation in various learning pathways

Factor	Influence on worker learning and identity transformation	Case and learning pathway in which evidence was observed[a]
Organisational context and conditions	Involvement of various stakeholders/partnership development	C1P1, C1P2, C1P3, C2P1, C2P2
	Solid infrastructure/established programme maturity	C1P1, C1P2, C2P3
	Voluntary trainee participation	C1P1, C2P1
Approaches to learning	Recognition of both work-specific and more generally applicable (e.g., self-esteem, confidence) learning goals	C1P1, C1P2, C1P3
	Use of self-directed and social learning strategies	C1P1, C1P2, C1P3, C2P2, C2P3
	Use of assessment to identify needs and monitor growth	C2P1, C1P2, C1P3
	Customised/adaptable curriculum	C2P1, C2P3
	Awareness of training benefits/links between training and target professions	C2P1, C2P3
	Trainers utilise expertise in essential skills and adult learning	C2P3
	Trainers provide extra-curricular support, including respect and motivation	C1P3
	Flexibility in modality, time, and location of training	C2P2

[a] *C1P1* case 1, non-formal training facility; *C1P2* case 1, non-formal education programme; *C1P3* case 1, adult high school formal and non-formal programmes; *C2P1* case 2, employee formal training on the job; *C2P2* employee informal learning on the job; *C2P3* community college adult trainee preparation for labour-market entry

Employee work-related formal on-the-job training

Workers who were on this learning trajectory were internationally educated professionals and unionised steel employees. One key condition across both organisations in this case was the importance of partnership development at the outset of the work-related formal training initiative. Engagement of the various stakeholders, including the company management team, human resource personnel, service providers of the training agency and employer or government programme funders, allowed for ownership of the training. Common to these two partnerships was a collaborative approach focusing on building rapport among team members. This served to strengthen programme planning, implementation and learner success. Both time and attention given to forming and maintaining the partnership were respected among stakeholders. This participant engagement factor, anchored in a commitment to support employee essential skills development, led to a second factor – determining the training approach. By conducting a formal needs assessment, a clear understanding of workers' learning needs was determined. Early identification of these needs allowed workers to recognise the importance of acquiring higher essential skills, while at the same time providing markers of programme progress and highlighting connections between the new skills and job tasks currently performed or new job tasks requiring different skills sets.

A key approach to learning in both of the formal training programmes was assessment. This integral component of worker success was built into all three phases of the programmes – entry, mid-point and completion. Various techniques were used including observation, interviews, standardised tests, self-assessment, and informal assessment tools. In the case of the steel workers, a consent form was signed at the outset of the programme which clearly specified that results of all assessments would remain strictly confidential. Another learning approach which proved successful was a custom-made curriculum for each group of learners. For example, internationally educated professionals were required by the company to write, edit and send memos, reports, e-mails, time sheets, etc. A functional curriculum of 35 hours was developed which included reading, summarising and presenting authentic workplace documents, such as the company benefit plan, billable hour set-up procedures and codes of conduct; moreover, essential skills of oral communication, job task planning and organising, and working with others were emphasised.

Learning practices common to both groups of workers centred on extrinsic motivators. For example, the steel workers were motivated to acquire higher skills related to manufacturing so as to gain promotions and improve their productivity. They recognised that their jobs could become redundant and wanted to demonstrate to their managers that they had the capability to take on more responsibility and learn new job tasks. Related to this learning practice was the integration of the National Occupational Codes (NOC) into the programme content, allowing workers to easily see the connection of the essential skills training to the ladders in their careers. As a result they felt more confident to accept technical training needed for promotion to supervisory positions or other internal opportunities. Another learning practice was voluntary participation in training. Workers from both companies

realised upper management's support for their professional development which increased their commitment to complete the programme.

Employee work-related informal learning in various learning spaces

Workers on this learning trajectory were residential construction carpenters and long-term nursing care employees. Similar to the trajectory described in the previous section, conditions of strong partnership development and engagement of the stakeholders in planning and designing the essential skills programme were evident in both organisations. The importance of conducting a needs assessment of learners was also demonstrated by both companies. However, the approach used in the training of the carpenters deserves further description.

The profile of the residential construction carpenters had its own set of working conditions. This seasonal work required much overtime during days and nights to meet the timeframes of other tradespeople. In addition, travel schedules required the carpenters to move from one jobsite to another with little advance notice. Because of these conditions, the programme planners decided that a formal classroom training approach would not be suitable and, therefore, created an informal online approach. The organisation also offered gift cards and prize draws as incentives to participate. A resource centre in a downtown location of the city with free access to computers was provided so workers could participate in training during their time away from the jobsite. It was thought that this approach would allow flexibility and self-directed learning. However, due to very low participation, tutors were soon hired at the resource centre to develop learning plans and adaptable time frames to participate in the online learning for each worker. Despite these efforts, this instructional feature also proved unsuccessful. In the final evaluation of the initiative, it was determined that the concept of essential skills was foreign to many small-business contractors, resulting in minimal promotion and buy-in to participate in such learning from company owners. Moreover, these workers had limited access to computer and Internet facilities within their place of residence. Although computer access was made available throughout the programme, flexibility was limited – often, learners had to arrange transportation from their home to the resource centre to complete the online training. Although the needs assessment indicated that workers wanted to try online learning for the first time, they did not have access to personal computers and did not have the basic skills necessary to navigate the Internet, use software or learning tools provided. This led to frustration, disengagement and lack of commitment.

For the workers at the long-term care nursing facility, very different learning practices occurred. Participating in a 12-hour formal essential skills classroom-based training programme with employees from different departments acted as a catalyst for wanting to continue learning beyond the programme. The company provided physical on-site space for training, freed up 1.5 hours from each employee's shift during the 8-week programme, and encouraged workers to continue their learning after the programme ended. One type of informal learning which took place was asking participants to search independently for information. For example, an employee from the Food Services Department used the Internet to search for nutritional meals for

seniors, while another worker from the Physical Plant Department located online safety bulletins and made copies for others in his unit. Another type of informal learning focused on workplace discussions. One benefit of participating in this programme was that workers from different departments were organised in small groups for the training which allowed them to get to know each other and discuss their different work tasks. One employee organised a lunch meeting for workers in the Food and Environment Departments to discuss interest in switching jobs across these departments and how to approach managers. During promotion of the programme, two managers expressed openness for this type of exchange.

Adult trainee preparation for labour market entry

The adults preparing for direct entry into employment were trainees from Personal Support Workers (i.e., healthcare aid specialists), Business and Office Administration, Hotel Management, and Aboriginal Police Preparation programmes. A key condition of the organisational context for this trajectory was the ability of middle managers to make the business case for essential skills training to senior college management, as well as to programme co-ordinators and instructors closest to the trainees. Making this business case entailed a socio-economic analysis which encompassed details about labour force growth, provincial and regional economic prospects, employment and demographics, and a rationale for higher levels of investment and participation in essential skills programmes. Developing and communicating this business case required a different language for both upper and front line personnel. A second contextual condition was creation of awareness and promotion of essential skills to the adult trainees. There was a need to determine trainees' understanding of essential skills and how they fit into their career paths. Orientation and career planning sessions introduced these ideas to trainees.

A key approach to training across the four programmes was using the momentum of an "upskilling" culture which was present in the community college system. This culture had developed as a result of current increases in adult enrolment and a reputation for creating tailor-made training programmes which had strong input from employment sector councils. Embedding the essential skills programmes into an existing curriculum proved the best way of "making the sell" to both instructors and trainees; for upper management, it was attracting new students to the college system. The foundational skills programmes ranged from 25–40 hours of instruction and were developed through easy access to federal government tools created especially for this initiative. Resources for addressing essential skills challenges were available through a repository under categories of awareness, assessment, learning and training.

Adaptability was another training approach contributing to programme success. This factor entailed being able to make changes to different programme components, especially the curriculum. The underlying principle was to customise content to meet the diverse needs of trainees while respecting the overall goals of the programme. Coupled with adaptability was trainer expertise, which meant having solid knowledge of the Essential Skills domain areas and being able to translate them into learning activities. It also meant having a background in teaching adults using a variety of strategies. Expertise in adult learning principles influenced

the manner in which instructors approached the trainees, as well as the entire teaching–learning transaction.

Learning practices were numerous. Learner engagement was enhanced when materials from the different target professions were used in the classroom. Trainees viewed this functional context curriculum as a strong link to their eventual work placements. Developing a close relationship with the specified job market provided both intrinsic and extrinsic motivation to undertake the extra hours of training. Trainees indicated that creating awareness of actual workplace expectations helped them validate their choice of career goals. However, in some cases, trainees believed that they already possessed the essential skills and encountered dissonance when they received the results of their pre-test indicating that they were functioning at a lower level than perceived. This raised a larger issue of the stigma attached to lower levels on the TOWES. Another practice evident among trainees was the ability to independently learn through wikis and web-based assignments designed to allow trainees to accelerate through the programme. These assignments tapped into the trainees' rich reservoir of prior work experiences and knowledge, helping to develop a community of practice both in class and online.

Discussion

Towards an understanding of critical factors which influence worker subjectivity

In search of better understandings of workplace learning for employees and adult trainees, perspectives which seem well-suited are constructivist and social cultural theories. For example, expanded concepts of situated learning, including practical activity, culture and socio-biographical features of the individual learner's life, have been useful in explaining engagement of experienced workers and apprentices (Evans et al. 2006). Similarly, reformulation of adult identities which awakened novel lifelong learning goals in literacy trainees have also been reported elsewhere (Taylor and Roberts 2013), using a socio-cultural lens focusing on context, content, instruction style and individual learner characteristics. Building on this previous work, we propose using social cognitive theory's concept of reciprocal determinism to help explain interactions among environment, personal factors, and behaviour within worker and adult trainee learning. That is, we examine how organisational context, approaches to training and learning, and other personal factors of the worker/trainee interact and influence instrumental learning outcomes. We further consider how such interactions are associated with transformative learning experiences impacting worker subjectivity.

Social cognitive theory and reciprocal determinism

Social cognitive theory moves beyond the immediate learning context and encapsulates both internal and external factors in the educational process. According Kay Bussey and Albert Bandura (1999), reciprocal determinism is the

interaction of environmental events, personal factors and behaviours in the process of learning. Environmental events such as resources, consequences of actions, other people and physical settings interact with personal factors such as beliefs, expectations, attitudes and knowledge, which also interact with behaviour such as individual actions, choices and goals (Schunk 2004).

Based on our case write-ups, elements such as partnership development, the building of team members to support the training initiative, government-sponsored learning and assessment tools, cultures of organisational learning, learning centres and mechanisms for creating public awareness can be viewed as *environmental events*. Worker and trainee needs assessment results, increases in job satisfaction, voluntary participation in a training programme, newly discovered attitudes towards informal learning, and increases in essential skills are elements from our cases which might be considered *personal factors*, whereas persistence and effort in the training programme, progress based on assessment feedback from instructors, motivation to learn, self-regulation of learning, and decisions to disengage/withdraw from learning can be seen as *behaviours*.

Drawing evidence from both of our cases, we might say that worker and trainee subjectivity was facilitated by the organisational context. As Bussey and Bandura (1999, p. 685) mention, "the environment is not a monolithic entity disembodied from personal agency". Here, various types of environmental structures are claimed as part of social cognitive theory, such as imposed, selected and constructed environments (Bandura 1997). Across both cases we find worker subjectivity embedded in a selected and constructed environment. Workers and trainees on all three learning pathways belonged in organisational environments which had a certain "brand". Important environmental conditions such as partnership development, collaborative team approaches, needs assessments and awareness building of essential skills were crucial factors which enabled individuals participating in formal and informal learning to exercise the autonomous self as described by Billett (2010, p. 11). However, for the residential carpenters in Case 2, the organisational context, which was more of a selected environment, failed to create an awareness of the importance of essential skills training among the small business contractors, and this actually impeded employee subjectivity by disengagement from the learning process. In addition, and closer to the actual training environment which was impacted by the organisational context, instructional methods, the functional context-oriented curriculum, and extrinsic motivators such as job promotions and increased responsibilities influenced essential skills knowledge acquisition. These factors thus enhanced worker and trainee subjectivity towards the autonomous self. As feedback through various assessment methods served as progress benchmarks in the essential skills training, workers and trainees developed a sense of efficacy in their beliefs about goal completion. These personal factors encouraged behaviours which led to achievement and acted as intrinsic motivators for learning. The interaction of both these environmental and personal forces influenced the behaviours of workers and trainees, especially in their learning practices. Choices like voluntary participation in training, trying out various types of informal learning activities and developing online communities of practice facilitated engagement and the autonomous self. However, with the internationally educated professionals in

Case 2, poor TOWES test results and the associated stigma of low literacy levels acted as an impediment to further formal training. In essence, these interactions within reciprocal determinism help shed light on the role of worker and trainee self.

Transformative learning theory and identity transformation

Another concept which can help to better understand worker subjectivities is transformative learning and the potential for identity transformation. While Jack Mezirow (1978) initially situated the learner as a unitary, cognitively rational actor, contemporary views recognise that individuals interact with the social world in such a way that transformational learning includes individual and social dimensions and implications. Having been the subject of research in educational settings for decades (Taylor 2007), there is a growing body of work which looks beyond the classroom to contexts such as the workplace (Marsick 1998; Choy 2009).

Workplaces are settings where power, knowledge and self are brought together in a complex social environment which includes various forms of struggle related to identity, agency, socio-cultural norms, political structures and functional practices (Boud and Solomon 2003; Billett 2002; Illeris 2008; Fenwick 2010). Work imposes physical, emotional and cognitive demands on us, often becoming a significant part of our identity and consciousness (Boud and Garrick 1999; Illeris 2013). This can create "disorienting dilemmas" (Mezirow 1991), challenging worker identities at individual, interpersonal, and systemic levels (Wasserman and Gallegos 2007, p. 445). Indeed, personal and organisational goals can be integrated, so work may be a source of transformation within our working and personal lives (Matthews 1999; Engstrőm 2001; Fuller and Unwin 2003; Billett and Somerville 2004; Felstead et al. 2011).

As our two cases demonstrate, workplaces can have a powerful influence on worker subjectivities. Consciously or unconsciously, workplaces can shape and direct workers' thinking and acting, including how they construe and construct experiences, how they position themselves, and what subjectivities are being constructed, negotiated or resisted (Billett 2010; Fenwick 2010). In Cases 1 and 2, environments and approaches leveraged the opportunity presented in essential skills and employment training to also encourage reflection, interaction and outcomes which extended beyond instrumental goals of the programmes. However, within both cases, there were also examples where workers and adult trainees struggled with their perceptions of self as they were involved in being oneself, seeing oneself through others, and changing oneself (Illeris 2013, Billett 2010, Fenwick 2004). Learner reflections were not only concerned with work roles, but also with how their identities were being created, changed, experienced or shared within their broader lives. Therefore, the discussion of subjectivities in the workplace necessarily includes the interplay with other identities which may be developed in other aspects of our lives. Identity development is an ongoing process, part of our lifelong learning – what Anthony Giddens (1991) refers to as the self as a reflexive project (p. 35). This process is entwined with other social and environmental factors, including those which arise at work. It is within these processes that workers experience subjectivity. Such subjective experiencing variously shapes and, at

times, directs their conscious thinking and acting, thereby reinforcing, refining and potentially transforming their "selves" (Billett 2010).

Conclusion

In review of our two cases, we find that worker subjectivity is evidently embedded into the contexts in which workers find themselves. Following Bandura's reciprocal determinism, the workers' learning experiences were constructed through the interplay of internal and external factors which appeared to influence perceptions of self through both work and learning. We therefore suggest that socio-cultural conditions and learning approaches can be significant in determining worker perceptions of self, and hold potential for supporting identity transformation.

On a final note, this article may initiate some concern related to workplace learning, subjectivity and identity. As Filliettaz (2013) reports, the Vygotskian concept of zone of proximal development is an important condition for skills development of workers in different training pathways. However, more research is needed to understand new ways of promoting guidance between more capable and less capable workers in both formal and informal learning. Related to this, many policy makers in countries in the Organisation for Economic Cooperation and Development (OECD) have placed recognition of non-formal and informal learning outcomes high on national policy agendas (Werquin 2010). Yet, this is not the case in Canada, especially for workers with low skills. In this regard, much can be learned from the European Commission Eurydice Report's (2015) recommendations for widening access to learning opportunities for low-qualified workers. Targeting financial support of employers through grants, allowances and vouchers to cover training costs for such employees would encourage more learning opportunities and in turn enhance our understanding of the critical factors which influence worker subjectivity and identity.

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