UPSKILL: A Credible Test of Workplace Literacy and Essential Skills Training

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Highlights

UPSKILL provides a rigorous test for workplace Essential Skills training

The decision to invest in workplace training, though complex, ultimately relates to the expected return on investment. Part of the challenge for employers and policymakers is that there are few high quality studies that have reliably measured the effects of literacy training or adequately measured its return on investment for employers, employees, and government. In an effort to fill this knowledge gap, the Office of Literacy and Essential Skills, a branch of Employment and Social Development Canada, sponsored a large-scale research project to evaluate workplace Essential Skills training using the most rigorous methods. Directed by the Social Research and Demonstration Corporation, the multiyear UPSKILL project resulted in important new evidence that helps establish the business case for workplace Essential Skills training.

All impacts on firms and workers were measured according to the best evaluation methods

UPSKILL utilized a randomized control trial design to provide the most reliable measures of the impacts of Essential Skills training in the workplace. A total of 88 firms in the Accommodations and Food Services Sector, primarily hotels, were randomly assigned to a program group where employees were offered a maximum of 40 hours of Literacy and Essential Skills training on-site during working hours, or to a control group whose employees did not receive the training. Random assignment efficiently controls for all factors, other than the UPSKILL training, which could affect employee and employer outcomes. Thus program-to-control-group comparisons provide reliable measures of the impact of UPSKILL training.

UPSKILL firms earned a 23 per cent rate of return on training investment

As a result of the training delivered through the UPSKILL program, firms experienced gains in revenue, cost savings from increased productivity, and reductions in hiring costs that amounted to about $4,600 per participant. When firms are assumed to bear the full costs of training and release time for workers, their net benefit is $577 per participant, for an average return on investment of 23 per cent.

Positive returns on investment for employees and government

Employees also experienced a substantial positive return on investment from UPSKILL training, as they bear few costs under the workplace delivery model. Earnings gains from increased job retention were significantly larger than the modest investment of personal time that participants devoted to complement the on-site training outside of working hours.

Governments also realized a positive return on their investment. As a baseline scenario for the cost-benefit analysis, governments were assumed to cover only costs of the program launch for sector-level activities: sector engagement, needs analysis and basic curricula design. As a result of the training, governments experienced gains in terms of increased income, corporate, and sales taxes, as well as a small reduction in transfers for Employment Insurance benefits. These gains more than offset the costs of sector-level activities to support the launch of workplace Essential Skills training.

Effects of Literacy and Essential Skills training on workers

Increased literacy scores

Participants' document use scores on a standardized literacy test increased by 11 points immediately after training and by up to 18 points six months later, compared to the changes experienced by workers in the control group. Among those assessed more than a year after enrolment, a 23-point impact was observed, which is equivalent to about half a level on the internationally-recognized literacy scale. This provides evidence that improvements in literacy skills can occur fairly quickly after training, and increase subsequent to training, as individuals utilize their skills.

Along with the average improvement in skill scores, the percentage of participants achieving the literacy skills level required in their job increased substantially. For the average employer with 15 employees, 3 additional workers met the literacy requirements of their job following UPSKILL training.

Improved job performance

Significant gains in job performance were also observed among UPSKILL program group members including a greater breadth of service quality, improved relations with customers, and increased task efficiency. At the same time, Essential Skills training led to an increase of over 12 percentage points in the number of employees achieving industry certification standards of job performance, compared to the changes observed among the control group.

Increased job retention

UPSKILL training led to significantly higher rates of job retention among participants. Fully 91 per cent of participants worked with the same employer up to a year after enrolment, compared to 83 per cent of those in the control group. Participants were also less likely to be unemployed a year after enrolment: only 3 per cent had an unemployment spell compared to 9 per cent in the control group. On average, participants worked nearly four weeks more over the year compared to the control group. Participants were also slightly less likely to receive Employment Insurance benefits in the year after enrolment.

Improved health and well-being

In addition to improving labour market outcomes, literacy has been linked with a number of non-financial outcomes such as attitudes, confidence, social capital, and health and well-being. In terms of mental health, program group members were nearly 25 percentage points more likely than the control group to have reported a reduction in their levels of stress experienced in the workplace since enrolling in the UPSKILL training program.

Effects were greater for employees with lower pre-training skills

UPSKILL training had larger effects on job performance for participants who had lower levels of pre-training literacy. This reinforces the fact that Essential Skills training can benefit a whole spectrum of

workers, not just those who are already skilled. Furthermore, a broad mix of workers benefitted both socially and economically from training, including men, women, immigrants and non-immigrants alike.

Effects of Literacy and Essential Skills training on firms

Increased customer satisfaction

Over 70 per cent of program group firms reported significant increases in satisfaction of hotel guests compared to less than 40 per cent of the control group. Significant reductions in customer complaints were also observed among program group firms, a key driver of customer loyalty, return visits, and repeat sales. Over three quarters of firms in the program group reported reductions in the incidence of customer complaints compared to less than a quarter of control group firms.

Cost savings and productivity gains

Employers recorded significant reductions in wastage and errors in both core job tasks as well as administrative activities. Nearly half of program group firms reported significant reductions in error rates, compared to only one in five firms in the control group. These efficiency gains translated into cost savings of about $1,000 per participating employee in the year after enrolment. Accompanying these gains were reduced time spent by supervisors monitoring and correcting work of their staff, adding another $1,200 per participant in savings over the follow-up period. Firms in the program group also experienced a reduction in hiring costs, arising from increased job retention. For the average employer with 15 employees, this translated into about one less hire that needed to be made during the year after enrolment.

Increased revenues

Program group firms were 22 percentage points more likely to report an increase in customer loyalty. This was accompanied by a positive impact on occupancy rates, with about half of program group firms having experienced an increase compared to about a third of the control group. It is estimated that these gains in occupancy rates, which were accompanied by small increases in spending on food and beverages, added some $2,200 in incremental revenues, per participant, for program group firms over the year following enrolment.

Benefits were achieved with modest investment of workers' time

The amount of release time that employers made available to participants to engage in training was, on average, just under 20 hours per participant – only about half of the 40 hours offered. However, once participants began the training, there were very high attendance rates and participants missed only a small fraction of what was available.

Larger impacts were seen in firms with greater breadth of business needs

Participants who were working in firms that had reported a high degree of needs at the time of enrolment experienced substantially larger impacts on their literacy scores and job performance than firms with fewer core pre-training business needs.

Conditions for success

Understanding worker and business needs is key to maximizing ROI

The degree of need among both learners and businesses is a key consideration for practitioners and employers in determining whether or not to provide LES training and how best to deliver it in order to produce positive effects in a given workplace context.

The corollary is that firms that do not have or cannot articulate clear business needs may not be ready for LES training. Similarly, workers that do not have explicit and unaddressed gaps in job performance that are linked with low literacy skills, may not be well suited for LES training. A strong business case for workplace LES training is dependent on an understanding of these underlying needs of workers and firms.

Firms' commitment to learning and training matters

The study considered the importance of a firm's learning culture and commitment to training. UPSKILL results suggest that a firm's prior investments in training, through either direct expenditures and/or incentives for workers, are important indicators of future impacts of Literacy and Essential Skills training.

Trust and workers' receptivity to learning also matters

Impacts of UPSKILL were larger for those with greater receptivity to learning and higher levels of trust. Low levels of trust can diminish the application of newly developed skills to work-related tasks. Situations within the workplace that may diminish trust, like management-union disagreements or recent layoffs, may thus diminish the benefits of training.

Implementation can be difficult for small firms

The amount of release time that employers can make available, given their current business demands, is an important barrier to training. Small firms, with less than 20 employees, find it particularly challenging. In the UPKSKLL project, even though a matching subsidy for release time was available (half of the release time, up to 20 hours per participant was reimbursed) very few employers maximized this subsidy by providing the full amount of training available. Alternative approaches that better address workplace constraints, such as training through mentorship or with off-site cluster-based delivery models for small businesses, should be explored.

Alignment with business needs through effective customization

UPSKILL results suggest that the degree of alignment that instructors are able to achieve between the training curricula and the business needs of employers, through effective customization, bears a significant influence on the degree of job performance improvement. The more clearly that employers can articulate tangible business needs, the easier the alignment will be achieved and the more likely the training will produce performance gains. Customization is not simply an exercise in using workplace materials. Rather, it is about ensuring the training will meet the precise business needs of the employer

and the learning needs of participants in ways that improve their job task performance. A highly-relevant occupational and business needs framework helps to achieve this while also maintaining high levels of engagement in Essential Skills training activities among learners.

Adopting a sector-based approach to design and implement training

A sector-based approach can be a particularly effective and efficient way to design a skills and performance framework along with a core Literacy and Essential Skills training curriculum for given occupations, which will help training practitioners achieve business alignment in a cost-effective way. A sector-based approach also facilitates communications between training practitioners and employers, as it can rely on existing industry networks that often build on long-established trusting relationships with employers.

Government can help by supporting sector needs analysis and curriculum design

Governments can play a key role in developing and implementing an overall strategy for engaging employers in workplace training through support for sector needs analyses and the design of core training curricula. These fundamental processes involve initial costs that no single firm will choose to bear. By supporting the "start-up costs" for a sector-targeted needs analysis and the design of occupation-specific core curricula, governments can absorb some of the costs that individual firms are reluctant to bear. For projects of similar scale to UPSKILL, these costs would represent about 13 per cent of the total unit costs for Essential Skills training delivery.

Chapter 1: Background

The challenge of low literacy among working-aged Canadians appears to persist. Results from the latest round of international literacy assessments released in 2013 reveal that while Canada ranks about average in literacy scores, it also has a higher proportion of its population with both low and high levels of literacy (Statistics Canada, 2013). While one in seven Canadian adults functions with very high levels of literacy (14 per cent at Level 4 or above) nearly half of the working-age population has less than Level 3 proficiency (49 per cent at Level 2 or below), the level that workers in many Canadian occupations have been deemed to require for successful performance.[1]

Over the last decade, a large volume of research has also demonstrated that literacy is unequivocally associated with large differences in employability, wage rates, income and reliance on social transfers. Adults with higher literacy skills earn more, experience less unemployment, and have less reliance on government transfers than those with low literacy (Osberg, 2000; Green & Riddell, 2001; Green & Riddell, 2002; Green & Riddell, 2007; Raudenbush & Kasim, 2002; and Statistics Canada and OECD, 2005). Workers with low literacy also become ill more often, experience workplace injuries at a higher rate, and take longer to recover (Rudd, Kirsch & Yamamoto, 2004). In addition to increasing costs for firms from injuries and absenteeism, research suggests that productivity declines substantially with lower literacy, in turn increasing labour costs and reducing firm profitability (Coulombe & Tremblay, 2005).

Encouraging employer investments in LES training

Over 75 per cent of those with low literacy are employed during the year – as such, the workplace remains a vital avenue for training in order to raise literacy levels of Canadians (Canadian Council on Learning, 2008). There is a growing body of positive anecdotal evidence on the effectiveness of workplace Literacy and Essential Skills (LES) training including a number of best practices in training design and delivery. In spite of this, there remain significant challenges in encouraging take-up and delivery of LES training among firms and low-skilled workers. Not only are participation rates in adult literacy training lower in Canada than Nordic countries, for example, they are particularly so among key vulnerable groups of Canadians (Rubenson, 2007). Unfortunately, workers who are most in need of learning to enhance their skills and literacy are often least likely to receive it, particularly among "frontline" workers where the incidence of training is significantly lower than the size of the apparent need (Gyarmati, Leckie, Dowie, Myers & Conte, 2010).

A firm's decision to invest in training, though complex, ultimately relates to the expected return on investment (ROI). Unfortunately, this is part of the challenge for employers. There are few high quality studies that reliably measure the effects of literacy training or adequately measure its ROI. Indeed, an international review of empirical studies of the effectiveness of literacy education found that studies of workplace training are very few in number and do not rate highly in terms of research quality (Gray, 2006).

[1] Based on the Essential Skills Profiles http://www.hrsdc.gc.ca/eng/jobs/les/profiles/guide.shtml.

Establishing the business case for workplace LES training

In an effort to fill this knowledge gap, the Office of Literacy and Essential Skills (OLES), a branch of Employment and Social Development Canada (ESDC), decided to sponsor a large-scale research project to evaluate workplace LES training using the most rigorous methods. Directed by the Social Research and Demonstration Corporation (SRDC), the UPSKILL project was launched in 2010 as a pan-Canadian research and demonstration project. UPSKILL utilized a randomized control trial (RCT) to provide the most reliable measures of the impacts of LES training in the workplace. Over 100 firms and nearly 1,500 workers in the Accommodations sector of the Tourism industry participated in eight provinces.

The findings indicate that workplace LES training does, indeed, have large positive impacts on workers' skills, job performance, and a range of economic and social outcomes for workers and firms. A benefit-cost analysis also reveals a fairly significant positive return on investment for workers, firms, and society as a whole. Importantly, the study also finds that the pattern of impacts varies significantly among workers and firms in ways that have important implications for the design and delivery of effective training programs. Understanding these factors can lead to policies that facilitate both larger employer investments in workplace training and higher return on investment. The results of UPSKILL provide clear evidence and insights into the value of workplace LES training, which can support small or medium-sized enterprises (SMEs) in their training decisions and make workplace training more accessible for lower-skilled Canadians.

Objectives and research questions

The objective of the UPSKILL demonstration project is to provide a credible test of the effectiveness of workplace LES training by measuring its impacts on workers and firms and estimating the return on investment for all those engaged.

The overriding policy question for this demonstration project can be stated as follows:

> **Is workplace Literacy and Essential Skills training effective in raising the skills of workers and does it lead to improved job performance in ways that support individuals while meeting business needs and providing a positive return on investment?**

This central policy question embodies a series of sub-questions and hypotheses about the decision to participate in LES training, the extent of engagement in learning activities, its effects on workers' skills, job performance and business outcomes, and ultimately, its cost-effectiveness for firms and governments. The overriding policy question can be broken down into a series of research questions that will be addressed in the remainder of this report:

1. **The decision to invest:** Will employers accept an offer of LES training, if they have to bear some of the costs, and will their staff voluntarily choose to participate?
2. **LES training delivery:** How much release time will employers provide for training given their business constraints? Will workers engage in the training activities to the extent offered?

3. **Effects on workers:** Does LES training improve workers' skills, job performance and employment conditions, such as job stability or wages? Are there also non-financial benefits such as improved health or well-being of workers?
4. **Effects on firms:** Does workplace LES training produce gains for firms in terms of increased revenue, improved productivity, worker retention, or better health and safety outcomes?
5. **Return on investment:** Does workplace LES training produce a positive return on investment for firms and governments?
6. **Conditions for success:** How do the effects of LES training vary among workers and firms? What are some of the conditions for positive effects and a positive return on investment?

Target groups

In coordination with the project funder, a broad population of interest was identified at the outset of the study: lower-skilled working-age adults employed in SMEs in occupations and a sector where there is evidence of an Essential Skills gap. The focus was on occupations for which workers would need a relatively small amount of LES training — from 10 to 40 hours — to advance their skills to the level required for their job.

A range of Canadian sectors and occupations were reviewed to determine which would best support a successful study in terms of having the infrastructure to facilitate a Canada-wide implementation and a high-quality evaluation. In consultation with the project funder, the **Accommodations and Food Services** sector was selected as the primary industry of focus for the UPSKILL demonstration project.

The sector is represented by a strong national sector council in the Canadian Tourism Human Resource Council (CTHRC) and has existing training and assessment infrastructure, which was adapted for UPSKILL; it has strong ties to industry, both nationally and regionally in the form of provincial partnerships. Thus the conditions exist in this sector that would support a successful pan-Canadian evaluation, along with a sufficient-size workforce with relevant skill gaps in four occupational groups:

- **Accommodation services:** front desk agents, guest services agents;
- **Custodial services:** housekeeping room attendants;
- **Food and beverage:** banquet servers, food and beverage servers; and
- **Kitchen services:** line cooks, kitchen help.

In addition to offering good conditions for a successful *internally* valid study – one where effects of training can be measured reliably without error – the Accommodations sector provides a significant degree of *external* validity, meaning that the results will be relevant to firms and workers in other sectors. The targeted occupations are not only present in the Food Services and wider Tourism sectors but also are similar to many in the broader Retail sector, which has one of the largest workforces in Canada.

Program model: best practices in workplace LES training

The UPSKILL program model was built on best practices in workplace training identified in a review of promising models and through extensive consultation with workplace LES practitioners. There are seven central features of the program design:[2]

Partnerships – Effective LES delivery models use a partnership approach that engages key stakeholders at various points in the implementation including employers and industry groups, training providers, government, and labour where it has formal representation through a union or other employee group.

Business alignment – Training delivery is aligned with the business needs of the employers. This is achieved through a formal consulting process that begins with employer consultations to diagnose their performance problems and identify the root causes of them. If an Essential Skills gap is found to be a cause of the problem then a project team works to design and deliver a training solution to close this gap.

Customization – Training is customized to employees' jobs and skill levels and based on authentic workplace materials. This helps ensure that what employees learn is transferred to the workplace.

Transferable learning strategies – The training explicitly includes learning strategies that are transferable to other contexts. Although the training is conducted in the context of job-specific tasks, the underlying skills taught are transferable and provide a foundation for other types of learning and tasks in the workplace.

Qualified training providers – Training providers must have the skills and experience to deliver the training according to the model. This includes the ability to work with businesses and adult learners, to conduct needs assessments, and to design and deliver LES training in a workplace context.

Blended delivery model with a service orientation – The training often occurs in a flexible manner, catering to the needs and schedules of the worker and the firm. It is conducted in a group setting, with some one-on-one instruction, peer learning, and self-paced modules, and can accommodate groups of workers with varying abilities and backgrounds.

Government financial support – At least some portion of the service delivery is government-funded and employers bear only partial costs. There is a strong consensus that government funding is critical to obtaining employer buy-in and that without it many employers would be unwilling or unable to participate.

Implementing UPSKILL: A multi-stage process and partnership model

These best practices were implemented through a multi-stage process and partnership model, recognizing that training is not simply an event or exercise in instruction by trainers alone. Rather, it is a process that requires collaboration among stakeholders and must be sensitive to an organization's specific context if it is to deliver lasting value. At the same time, it should maximize efficiency in delivery by drawing on sector-based resources where they are available such as performance standards, core curricula, and training tools.

[2] See the design report for the UPSKILL project Gyarmati et al. (2010).

What follows is a brief overview of this process along with highlights of the key partners and their roles in the project.

- **Sector engagement:** The first stage of the implementation involved engagement of the target industry at both a national and regional level through lead organizations who would act as the liaison with firms. In this initial stage, the lead organization in each jurisdiction would recruit a number of "exemplar" firms, one or two in each province, to participate in a performance and training needs analysis to support the development of the LES training curricula.
- **Sector needs analysis:** In the second stage, a sector needs analysis (SNA) was performed to better understand the relationship between skills and performance gaps of workers and the business needs of firms. This was accomplished through the analysis of national industry standards for the target occupations and the development of a performance framework that links workers' skills, their job performance, and business outcomes. This was combined with an analysis of skills and performance gaps and training needs within a group of exemplar firms to provide a rich understanding of how skills gains can generate positive business outcomes.
- **Core curricula design: LES within a performance framework:** In the third stage, core curricula were designed for each of the target occupations, based on the findings of the sector needs analysis. In parallel, train-the-trainer workshops were also designed along with other tools to prepare and support the workplace educators to deliver the training intervention.
- **Firm recruitment and organizational needs assessment:** In parallel with the design of the core curricula, individual firms were engaged and recruited to participate in the training intervention. The offer included up to 40 hours of Essential Skills training for each employee, with coverage for half of their release time up to a maximum of 20 hours. The offer included a detailed organizational needs assessment (ONA) to help identify firm-specific performance gaps and business objectives, which would inform the customization of the curricula for their unique needs.
- **Worker recruitment and assessment:** Workers were then recruited from within each participating firm through information sessions, at which the objectives, benefits and administrative aspects of the project and training were explained to potential participants. Participation in UPSKILL was voluntary. Employees who agreed to participate in the project were asked to sign a consent form that allowed the project administrators to use the collected data for research purposes and to customize a training solution for their unique needs. Assessments of Essential Skills and job performance levels were also conducted following the information sessions.
- **Customization and training delivery:** Workplace educators then used the results of the ONA and baseline assessments of participants to customize the core curricula to develop a training solution for each firm and its participating employees. The training solution was then delivered to participants within the workplace, up to a maximum of 40 hours of training per participant, through a flexible and blended approach, using a combination of group, one-to-one, and self-paced learning modules that were customized to the unique needs of the firm and learners.

Key partners

Canadian Tourism Human Resource Council (CTHRC) was the lead partner selected to support the engagement of the Accommodations sector at the national level, given their key role as the sector council responsible for the broader Tourism industry. In most provinces, their provincial counterparts, known as Tourism Human Resource Organizations (THRO) led the engagement of the sector in their respective provinces and helped coordinate UPSKILL training delivery with other local partners. Participating THROs included the Saskatchewan Tourism Education Council (STEC), Manitoba Tourism Education Council (MTEC), Ontario Tourism Education Corporation (OTEC), Nova Scotia Tourism Human Resource Council (NSTHRC), Tourism Industry Association of New Brunswick (TIANB), and Hospitality Newfoundland and Labrador (HNL). CTHRC and the provincial THROs also conducted the emerit© assessments for measuring job performance.

The Training Group at Douglas College was the lead partner responsible for sector engagement, firm recruitment, and training delivery in the province of British Columbia. The Training Group also collaborated on the sector needs analysis and the design of the core UPSKILL curricula.

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Additional partners included Workplace Education Manitoba (WEM), the Nova Scotia Department of Labour and Advanced Education, and Literacy Alberta who each provided UPSKILL training in their respective provinces. Bow Valley College and DataAngel collaborated on the design and scoring of the Skills Snapshot – the TOWES-based Essential Skills assessment used for the UPSKILL project.

Research design

A firm-level randomized control trial

It is not a simple matter to identify the impacts of training programs on workers and firms. Individual outcomes are dependent on many factors and it is not sufficient to simply compare workers' competencies or performance before and after training as a measure of the effectiveness of that training. For instance, changes in workers' personal circumstances or economic conditions facing the firm can lead to differences in performance over time, independent of the effects of training.

What is required to isolate the effects of the training from all other factors is a counterfactual – a measure of what would have occurred in the absence of the training. Comparing participants' performance after the training with this counterfactual gives a true measure of the incremental impact of the training. It is widely accepted that the best way to construct a counterfactual and measure program impacts is through the use of a randomized control trial (RCT). Under an RCT, individuals who volunteer for an intervention are assigned, randomly, to either a program group that receives the intervention or to a control (or comparison) group that does not receive it. The randomness of the assignment ensures that two groups are the same in terms of all their pre-training characteristics, even those that are unobserved, immeasurable or totally unknown to researchers. As a result, any

differences in outcomes of the two groups that are observed after the training can be attributed with confidence to the effect of the program.

For the UPSKILL demonstration project, random assignment occurred immediately following the recruitment of firms and workers. A cluster random assignment design was used whereby firms were randomly assigned rather than individual participants, each with a 50-50 chance of receiving training. All participating workers within each firm were assigned to the same group, whether the program group eligible for UPSKILL training, or the control group. Random assignment was conducted in cohorts of matched pairs based on their approximate size and location to ensure equivalent distribution of firms within program and control groups. For instance, if four firms were recruited within a two-week window, they would be matched to similar firms within that cohort based on their size (i.e., revenues, employees, number of participants) and their location, then randomly assigned to the program or control group.

Research framework

The UPSKILL research design has three main components: implementation research to study the process of LES training delivery in the workplace; an impact study to measure the effects of LES training on workers and firms; and a benefit-cost analysis to measure its return on investment. The primary data collection instruments included participant and employer surveys, the Test of Workplace Essential Skills (TOWES), and job performance assessments-based on the emerit© industry certification program. All instruments were administered at three points in time: at baseline, prior to training, and approximately nine months after enrolment. Administrative data on firm outcomes were also collected along with data on training delivery through a project management information system (PMIS).

Figure 1 illustrates the research framework highlighting each of the central variables for which data were collected before and after training. It begins with the Essential Skills training intervention and the learning process itself (at the top) and ends with the longer term outcomes and the estimation of return on investment for workers, firms, and government (at the bottom). In between are the expected intermediate outcomes of training, many of which are both outcomes themselves and mediating conditions that influence the magnitude of the effects of training on other outcomes. Surrounding the model are the contextual factors at both the learner and firm level, which can moderate the effects of training and are important variables to help in the interpretation of the results.

Workplace LES training: Implementation factors

The logic model begins with the *process* of implementing workplace LES training. The research team monitored a series of factors that are hypothesized to influence training effectiveness including the degree of alignment of the training with both learner and business needs, the duration and intensity of the training, the learners' and firms' readiness for training, and the extent of their active engagement in learning activities.

Alignment to needs: Training that is delivered to address specific Essential Skills and performance gaps among workers, and is also well aligned with the employer's specific business needs, is hypothesized to have a greater likelihood of success. An example of aligning the learning objectives of training to both the learner and business needs is to include training for those struggling with oral communication (an Essential Skill), in an effort to improve their quality of customer service (Job Performance) and thereby

raise customer satisfaction and repeat sales (Business Needs). Another example is to increase document use skills (an Essential Skill) to reduce error rates in form completion (Job Performance) and save costs of supervision and duplicate work, lowering labour costs (Business Needs).

Training duration/intensity: Duration refers to the total amount of time spent in the training while intensity includes a reference period. The greater the number of hours delivered, the greater the expected effects, all other things being equal. Similarly, training delivered irregularly or spread out over too wide a timeframe might have a lower chance of skills reinforcement and longer term skill gains.

Training readiness and extent of engagement: The effectiveness of the training will also be influenced by employees' and employers' prior motivations and expectations in regard to the training, as well as by their engagement in it and their understanding of its objectives. Also, employees who voluntarily participate in the training would be expected to be more engaged and motivated to complete it and succeed. Similarly, employees and employers who are confident in the value of the training and who have a plan for its use will be more likely to apply their newly acquired skills in the workplace. Finally, the proportion of a firm's employees participating in the training will influence outcomes at the workplace level: other things being equal, the higher the proportion participating, the more likely that firm-level impacts will be observed.

Contextual factors

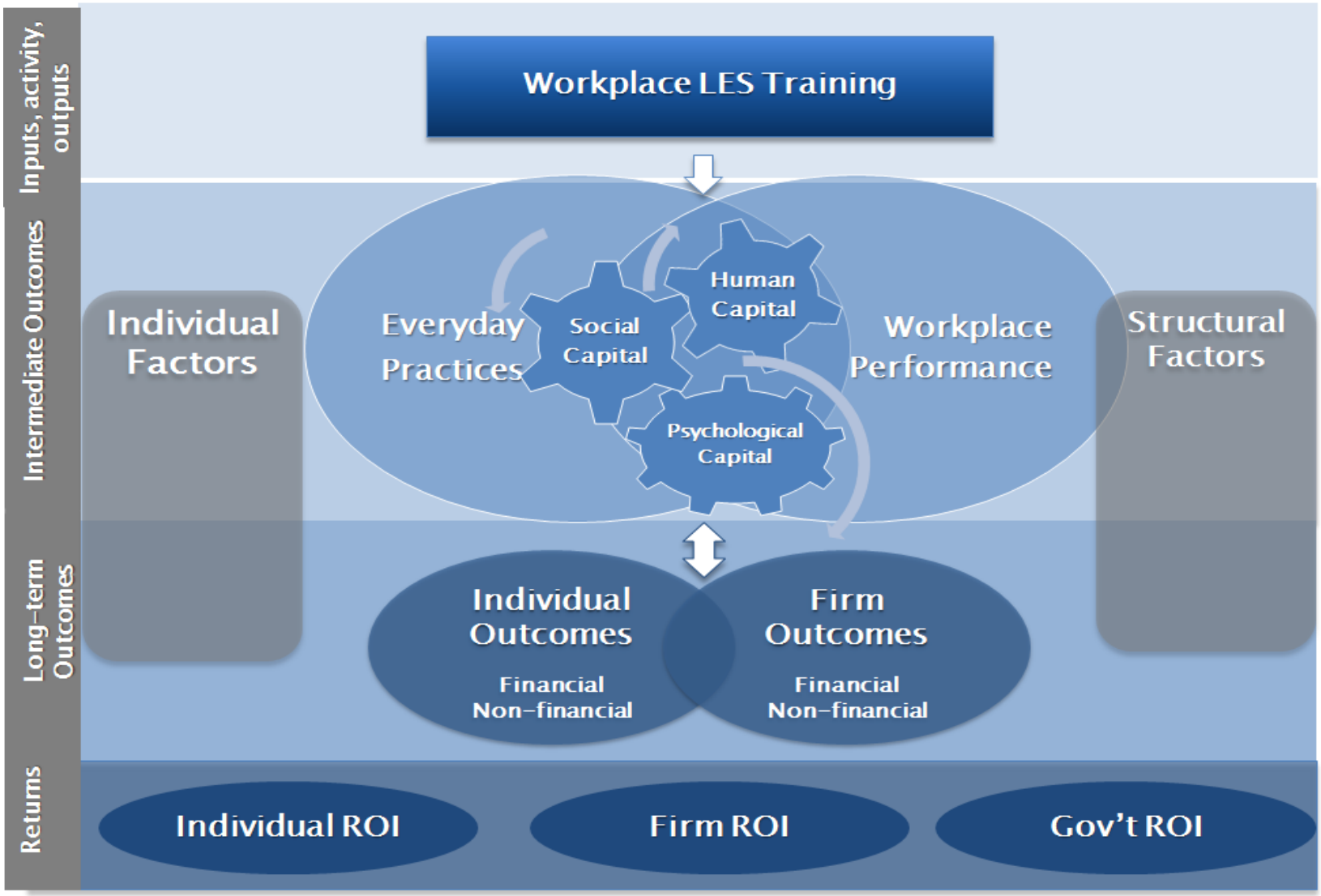
A training program is only one part of a larger system that leads to expected outcomes where other factors play a role in influencing worker behaviour, worker performance, and business outcomes. Thus, the impacts of workplace LES training are influenced by a host of contextual factors, at the level of learners, the workplace, and externally in terms of the economic and policy environment. Measuring the contribution of these additional variables enables us to identify the conditions that can either support or impede positive outcomes of training.

Individual-level factors: These factors include a range of sociodemographic and lifecycle characteristics of learners such as gender, age, household income, marital status and family composition/presence of young children, all of which can influence not only the decision to take-up training but also the extent of engagement in learning activities once enrolled.

The extent of human, social and psychological capital that a learner possesses at the start of training are also important contextual factors to consider. Their existing skills, prior work experience, and attitudes towards learning can all play a key role in keeping learners motivated and engaged. These factors are discussed in more detail in the next section as they are also outcomes of training.

Structural factors: A range of factors at the firm level can influence how workers apply what they have learned to their jobs. These include the clarity of roles and expectations of staff such as the existence of clear performance standards and feedback mechanisms, the learning culture within the workplace and amount of prior training commitments that employers have made, the extent of employees' engagement and participation in workplace committees and decision-making, and the use of performance incentives, which may reinforce knowledge transfer to performance on the job.

Figure 1 Research framework for the UPSKILL demonstration project



Beyond the workplace, training outcomes can be affected by a range of external enabling/hindering factors such as the socioeconomic and labour market context, as well as the policy, program and institutional environment.

Intermediate outcomes of training

Essential Skills, human capital: The primary immediate training outcomes of interest are improvements in the Essential Skills of participants including document use, numeracy, oral communication, problem solving/thinking skills, and working with others. This may lead to increased participation and success in other forms of skills development including occupational training.

Psychological capital: Another fairly immediate outcome of training may be changes in the psychological capital of learners, which includes a range of attitudinal measures related to learners' self-efficacy, self-esteem, and resilience. A key theme in the psychology and adult education literature is that education and learning are often associated with changes in how an individual thinks and feels about him/herself. Research has shown that, regardless of job complexity, training can improve self-efficacy and, moreover, improve performance (Orpen, 1999). It has also been argued that adult learning contributes to the development of resilience (Hammond, 2003), which can lead to persistence both with further training, job performance, and one's career development. These forms of psychological capital are also important indicators of well-being in their own right, as they represent significant mental and emotional resources that individuals can draw on in many areas of their lives.

Social capital: Another theme in the training literature is the positive effect that adult learning can have on the creation and development of social capital. (Balatti, Black & Falk, 2006) Social capital refers to the resources, or forms of support, that are accessible in one's social networks. This includes bonding social capital which refers to relatively homogenous networks connected primarily by close or strong ties, and bridging social capital, which refers to networks that include important connections with those unlike the participant, usually characterized by distant or weak ties. Here the diversity of the network is important. While a large social network may be useful in getting leads to other job opportunities, it is less useful if all contacts are in the same walk of life as the individual and know each other. Social capital is seen as playing an important intervening role in the realization of socioeconomic outcomes as well as a prerequisite or co-requisite of further learning. Those with larger and more diverse networks may have access to further channels and opportunities to enhance their skills.

Everyday practices: Beyond the workplace, the research framework and data collection strategy also includes outcomes relating to the activities in which learners engage in their everyday lives, which are counterparts to some of the workplace outcomes. This includes measures of the extent of learners' practice and use of literacy skills outside of work such as reading books and other documents, and writing letters or emails. It also includes their access to and participation in additional channels of further learning such as participation in their community, volunteering, or other informal opportunities for skill use.

Longer-term outcomes of training

While intermediate outcomes of training may occur fairly quickly — possibly observed during or immediately following training — longer-term outcomes are those that may take some time before they

are observable. For the purposes of the UPSKILL demonstration project they are defined as those that are observable beyond six months after enrolment in the study. These outcomes can accrue both to individual learners and to firms, and they can be classified as financial or non-financial in nature.

Individual employee outcomes

Financial outcomes refer to longer-term outcomes that affect an individual's income or wealth. The literature reports higher employment rates, increased earnings, job stability, the potential for career advancement, and higher wages among the potential financial benefits for workers. These outcomes are linked to performance outcomes in that raising skills makes workers more effective in their jobs, which in turn may affect their potential for job retention, advancement, and wage growth.

Non-financial/market outcomes are those experienced by an individual worker or their family that do not directly affect one's wealth or income, such as improved health and well-being. The broader adult learning literature identifies several other individual-level non-market outcomes of adult learning programs, including increased access to services, increased life satisfaction, lower overall stress, improved relationships with family, friends and coworkers, and increased levels of social inclusion.

Firm/workplace outcomes

Financial outcomes include increases in sales revenue, increased productivity and lower labour costs, improved health and safety leading to reduced injuries and absenteeism, and increased worker retention leading to lower hiring costs. The effects of LES training on each of these financial outcomes are generated through its effects on the skills and performance of workers. For instance, improvements in oral communication and problem solving/thinking skills lead to better engagement of customers and complaint resolution. This produces gains in customer satisfaction, repeat sales, and ultimately increased revenue. Similarly, gains in document use, numeracy skills, and teamwork are fundamental aspects of productivity. Gains in any of these areas may lead to lower error rates, increased task efficiencies, and ultimately lower labour costs.

Non-financial outcomes include outcomes that cannot be easily quantified or monetized such as improved workplace morale, cohesion among co-workers, improved trust between management and employees, and an enhanced culture of learning. While these outcomes do not have a direct monetary value, they are associated quite closely with financial outcomes. For instance, improved worker morale and trust in management may increase worker productivity and job retention thereby reducing costs.

Chapter 2: Recruitment and profile of firms and workers

A two-stage process was used for the UPSKILL recruitment, where firms were initially engaged followed by an offer to workers within each participating firm. The first section of this chapter provides a review of the firm recruitment process and a profile of the firms that enrolled. The second section of the chapter provides an overview of the worker recruitment process and a profile of participants. A final section explores the comparability of the program and control groups following random assignment, which affirms the integrity of the experiment.

Summary of findings

- **The offer of workplace LES training was attractive to a large number of firms and workers, with high take-up and low rates of withdrawal.** In total, 110 firms and 1,438 workers joined the project. Of the 110 firms, 104 underwent organizational needs assessments and 88 firms with clearly articulated training needs chose to continue in the project. Only one firm withdrew from the study after being assigned to the program group that was eligible for training, while two firms withdrew after being assigned to the control group.
- **A large majority of participating firms were small or medium-sized enterprises (SMEs) in the Accommodations sector with only a small minority of larger firms.** About 37 per cent of participating firms were small hotels with fewer than 50 employees. Another 51 per cent were medium-sized hotels with between 50 and 199 employees. Only 12 per cent of firms had 200 or more employees, and less than 4 per cent had 500 or more.
- **Unionization rates varied as did prior investments in training among firms. Very few firms or unions had offered Literacy and Essential Skills (LES) training to their workers in the past.** About 36 per cent of participating firms had unionized workforces, varying across provinces from about 30 per cent in British Columbia, the Prairies and the Atlantic regions, to double that in Ontario (61 per cent). Nearly half of firms (48 per cent) spent less than $5,000 on training in the prior year and very few offered Essential Skills training.
- **Most participants were permanent full-time employees of their hotel and worked in one of the four primary service occupations of the Accommodations sector.** Housekeeping room attendants made up the largest group (43 per cent), followed by front desk agents (25 per cent), food and beverage servers (21 per cent) and kitchen staff (11 per cent). Most UPSKILL participants were women (72 per cent), under 45 years of age (67 per cent), and had at least a high school diploma (85 per cent). About 40 per cent of UPSKILL participants were immigrants.
- **The most common business needs identified by employers included higher service quality and improved customer relations, which are key drivers of increased revenue** (91 per cent). An equally high proportion identified productivity concerns, specifically in terms of task efficiency to lower labour costs (90 per cent). A lower percentage (75 per cent) identified the need for productivity gains in terms of reducing errors and wastage and improved health and safety outcomes (68 per cent). The least common business need identified was for reduced absenteeism (32 per cent).

- **Underlying these business needs were low levels of Essential Skills and substantial gaps in job performance observed among UPSKILL participants at the time of enrolment.** Over 85 per cent of participants scored below Level 3 on document use, with more than half in the upper Level 1 to lower Level 2 range (between 180 and 250). A full 40 per cent of participants failed to meet the industry performance standards for their occupation, including significant gaps in oral communication, problem solving, and teamwork.
- **Random assignment was conducted appropriately and the integrity of the experiment was maintained throughout the follow-up. The impact analysis thus provides a true measure of the effects of UPSKILL training on workers and firms.** In total 45 firms were randomly assigned to the program group and received training, while 43 were assigned to the control group and did not. The groups were statistically similar on most characteristics at baseline, and their baseline composition remained similar throughout the follow-up in spite of declining response rates.

Recruitment of firms and employer data collection

Local partners in each of the eight provinces where UPSKILL was operating were given the task of recruiting firms.[3] In each province, the targeted number of firms to be recruited was mutually agreed upon between the local partner and SRDC. Local partners usually began recruiting through their established hotel contacts but went farther afield with referrals or "cold calls" as necessary to meet their recruitment targets. Firms who responded positively to the UPSKILL offer and expressed interest in joining the study signed an UPSKILL participation contract to officially begin their participation; in total 110 firms signed such an agreement. As indicated in Table 1, nearly one third of the recruited establishments were from BC. Ontario firms represented 18 per cent of the sample, while approximately 25 per cent were from each of the Prairie and Atlantic regions.

[3] UPSKILL was implemented in all provinces except PEI and Quebec.

Table 1 Firm participation in key project elements, by province

Province	Number that signed firm agreement	Number that completed an ONA	Number that were randomly assigned	Number that participated in employee follow-up research	Employer follow-up survey	
					Number that responded	Response rate (%)
NL	12	11	**11**	10	9	81.8
NS	6	6	**4**	4	3	75.0
NB	9	9	**8**	8	4	50.0
ON	20	20	**16**	16	15	93.8
MB	9	4	**5**	4	4	80.0
SK	15	15	**12**	12	8	66.7
AB	4	4	**4**	4	4	100.0
BC	35	35	**28**	26	23	82.1
Total	**110**	**104**	**88**	**84**	**70**	**79.5**

After each hotel joined the study, a local UPSKILL representative visited it to complete an organizational needs assessment (ONA) to identify the business and worker performance needs for purposes of customizing the core curriculum. As well, hotels were asked to complete an establishment profile to provide basic baseline statistics. As Table 1 indicates, almost all hotels that signed a participation contract completed an ONA (95 per cent).

Once the ONA was completed, employees at the hotel were invited to join the study in an information session held at their workplace. Eighty-eight firms with clear training needs decided to continue in the project and begin recruiting workers. Those employees who agreed to join the study were asked to complete a baseline survey, an Essential Skills (TOWES) assessment, and a job performance assessment (see *Employee recruitment and data collection* for more on these lines of evidence). Once the baseline data collection was complete, the establishment was randomly assigned. Additional employees at a hotel were not permitted sign up once it had been randomly assigned.

Level of participation and response rates

In terms of the number of employees enrolled, participation varied considerably from hotel to hotel. In some firms UPSKILL was a hotel-wide initiative with management ensuring all staff knew about the project and had the opportunity to sign up, while in others it was more of a "niche" project with only a small percentage of staff invited to attend an information session. In all cases, employee sign-up was voluntary. On average, the number of participants per hotel was 15, ranging from a high of about 60 to as few as four or five.

Of the 88 firms who made a commitment to the project and were randomly assigned, 84 completed the employee follow-up research. While at least some administrative and participant tracking data were received for all of these 84 firms, a total of 70 provided responses to the final employer survey 12 months after enrolment, for an 80-per cent response rate.

Profile of firms

This section looks at the composition of the 104 firms for which key baseline employer data are available.[4] The profile is relevant as firms' characteristics are likely to affect the pattern of impacts of the UPSKILL training. For example, it is possible that variation in the size, differences in the needs of the firms, or their readiness for training can significantly affect the degree of success of the intervention.

The firm profile is based on data from two sources: the establishment profile worksheet and the ONA. The worksheet was provided by the UPSKILL partner to hotel general managers to complete at baseline, prior to random assignment. Managers completed the worksheets by hand and returned them to the provincial UPSKILL partner who forwarded them to SRDC for data entry. The ONA provided profile information at baseline in regard to business outcomes and worker performance gaps.[5] The ONA was administered — usually in person — by the local UPSKILL partner to the general manager or human resources manager of participating hotels. For some larger hotels, the local UPSKILL representatives also interviewed line department heads. This process provided information on 104 firms.

Firm characteristics

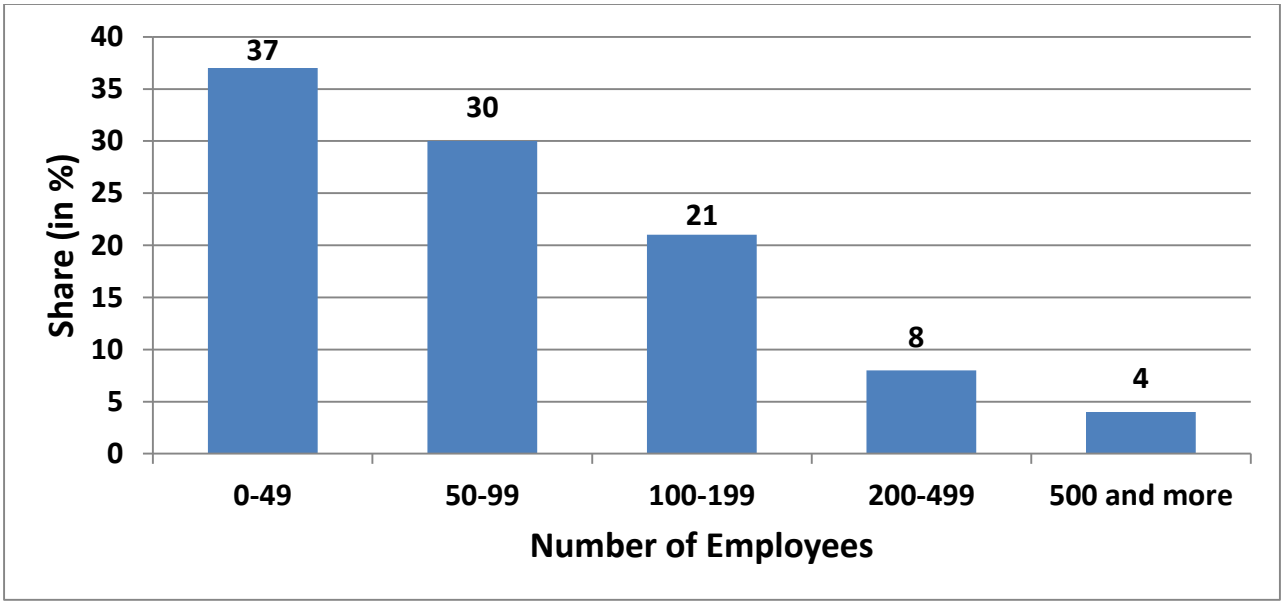
The vast majority of firms enrolled in the project (89.1 per cent) were hotels, and the remainder primarily resorts. While there was little variability by type of firm, there was variation by size. As shown in Figure 2, 37 per cent of the sample had less than 50 employees, 30 per cent had between 50 and 99, 21 per cent between 100 and 199, and 12 per cent had 200 employees or more. Not shown is the fact that participating hotels from Ontario tended to be larger, with just 20 per cent having less than 50 employees. The number of guest rooms ranged from less than 50 to over 400, with the largest category (46 per cent) being between 75 and 149 rooms.

Turning to financial variables, a range of sizes was observed. With regard to sales, a large share of firms (43 per cent) had $5 million or more in annual revenue, while 27 per cent had less than $2 million, and 30 per cent had between $2 and $5 million. Similarly, with respect to payroll, about half of the firms in the sample had a payroll between $500,000 and $3,000,000, with the other half being equally spilt between firms with payroll below or above that range.

4 Missing values mean that usable sample for measures presented here may be less than 104.

5 The ONA instrument is based on the sector needs analysis (SNA) that was designed to identify a central set of business needs of interest to hotels and performance gaps. Importantly, it also aimed to determine the underlying causes of these gaps and how Essential Skills training could contribute towards a solution.

Figure 2 Number of employees: Distribution of firms (%) by number of participating employees

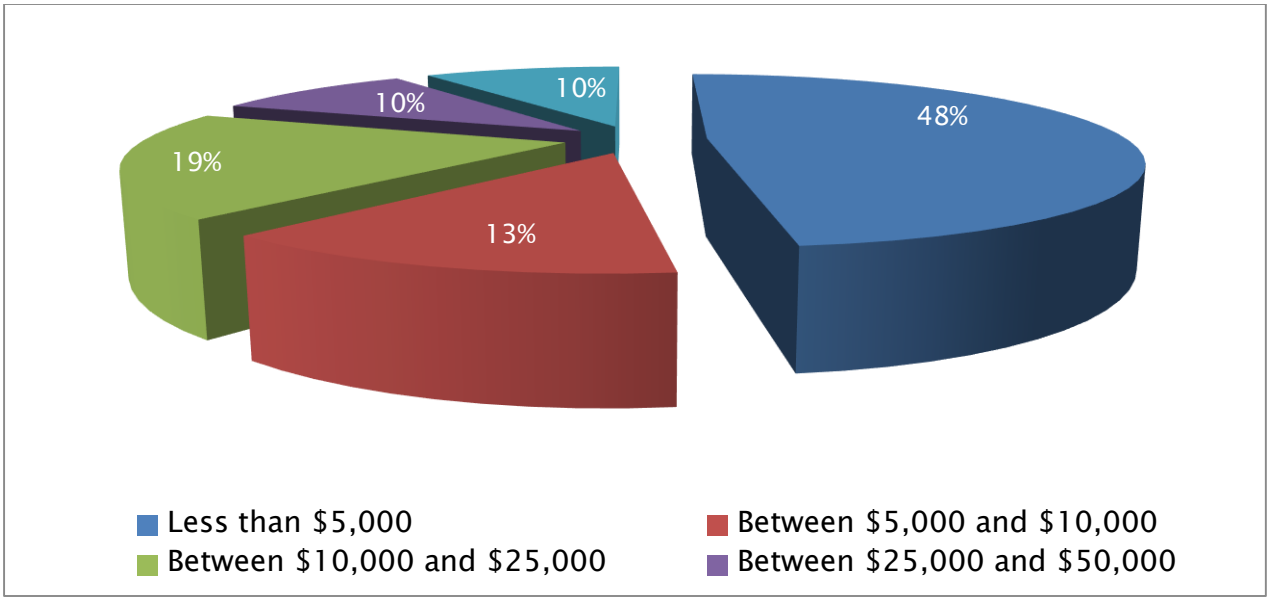


Source: UPSKILL Establishment Profile.

Three in four establishments had at least one form of reward system in place, with the most common being merit-based pay or bonuses (about 67 per cent). With respect to benefits offered to employees, on average, 87 per cent of the employees were entitled to vacation leave, while 44 per cent had sick leave and 65 per cent benefitted from medical/drug insurance plans.

As shown in Figure 3, almost half the sample (48 per cent) spent less than $5,000 on training in the previous year. The next largest category (19 per cent) was $10,000-$25,000 of training. Only 1 in 10 hotels spent more than $25,000 in the prior 12 months.

Figure 3 Distribution of firms (%) by the amount spent on training in the previous year



Source: UPSKILL Establishment Profile.

UPSKILL firms represented a range of service levels from "budget" accommodations to "high-end" operations. For all hotels combined, the average non-discounted room rate was $142, with wide variation in rates indicated by the high standard deviation and the significant range of $54 between the 25th and 75th percentiles. There was also variation in the type of services available — for example, 30.7 per cent of the sample did not have a bar, while 56.4 per cent had one and 12.9 per cent had two or more.

Another source of distinction among firms was the level of unionization. Across the sample, 36 per cent of the firms had at least one employee covered by a collective bargaining agreement. This varied considerably across the provinces, from about 30 per cent in British Columbia, the Prairies and the Atlantic regions, to double that in Ontario (61 per cent). Unsurprisingly, the unionization rate increased with the size of the firm.

Characteristics of withdrawal firms

There were some notable differences between firms that participated in UPSKILL and those that withdrew prior to random assignment. Perhaps most strikingly, hotels that withdrew were more likely to indicate at baseline that their revenue "declined a lot" or "declined somewhat" and were less likely to say that it "stayed about the same" or "rose" over the previous year. Establishments that withdrew were more likely to be sole proprietorships or "Independent, but operating under a hotel flag/brand" and less likely to be owned by a company. None of the establishments classified as "Subsidiary of, owned by a hotel corporation" or "Franchise of a hotel corporation" withdrew. The hotels that withdrew were more likely to be "medium sized" in the 100-199 employee range and less likely in the 50-99 range.

Baseline business and performance needs of firms

This section reviews selected results from the ONA, first by illustrating the key business areas employers identified as needing improvement and then by further showing the underlying employee skill and performance gaps for each area, as expressed by employers. This information contributed to the customization of the core UPSKILL curriculum by instructors, and it also indicated the areas where improvement could be most likely expected from the training.

First, Table 2 reveals that an overwhelming majority of participating employers perceived room for improvement in their business outcomes. The most common business needs identified by employers included the need for higher service quality (94 per cent) and customer relations (88 per cent) — both key drivers of improved revenue (91 per cent). An equally high proportion identified productivity concerns, specifically in terms of task efficiency to lower labour costs (90 per cent). A somewhat lower percentage identified the need for productivity gains in terms of reducing errors and wastage (75 per cent) and improved health and safety outcomes (68 per cent). The least common business need identified was for reduced absenteeism (32 per cent).

Table 2 Overall business needs

Business Need	Need for improvement? (% saying yes)
Maintaining service excellence	94
Increasing sales revenue	91
Productivity: task efficiency	90
Enhancing guest relations	88
Participation in learning (learning culture)	81
Employee confidence	79
Productivity: cost control (reducing errors and waste)	75
Job satisfaction	72
Health and safety	68
Employee-management relations	64
Employee involvement and sense of belonging	63
Employee retention (turnover and tenure)	56
Absenteeism	32

Source: Calculations by SRDC based on data from the Organizational Needs Assessments.

Second, the key business needs were linked to employee performance areas, and employers were asked if their staff could improve performance to better achieve these business goals. As shown in Table 3, the goal of enhancing guest relations had the most consistent connection to worker performance of all outcomes. An overwhelming majority of employers, more than 92 per cent, identified communication skills as needing improvement, uniformly across all occupations. Two underlying Essential Skills of oral communication and thinking skills/problem solving are vital to performance improvement in this area and were measured in UPSKILL through the industry performance assessments. Document use is also required for guest relations, notably in resolving guest complaints, and was measured in UPSKILL through the Skills Snapshot, a TOWES-equivalent measure of document use and numeracy.

Table 3 Worker performance gaps: Percentage of employers reporting improvement needed

Business need	Worker performance area: by industry standard	Food and beverage servers	Front desk agents	House-keeping	Line cooks	Underlying Essential Skills
Enhancing guest relations	Communication	93	97	92	96	Oral communication Thinking skills/ problem solving Document use
Maintaining service excellence	Tools and equipment knowledge	51	55	62	N/A	Oral communication Document use Numeracy Working with others Thinking skills/ Problem solving
	Food and beverage service	87	N/A	N/A	N/A	
	Guest services	N/A	86	N/A	N/A	
	Cleaning responsibilities	N/A	N/A	73	N/A	
	Kitchen operations	N/A	N/A	N/A	85	
Increasing productivity	Forms completion	49	35	60	44	Document use Numeracy Working with others
	Payment processing	60	36	N/A	N/A	
	Inventory control	N/A	29	N/A	69	
Increasing sales	Product knowledge	98	N/A	N/A	N/A	Oral communication Thinking skills/ Problem solving

Table 3 Worker performance gaps: Percentage of employers reporting improvement needed (cont'd)

Business need	Worker performance area: by industry standard	Food and beverage servers	Front desk agents	House-keeping	Line cooks	Underlying Essential Skills
Improving health and safety	**Health and safety practice**	57	26	79	73	**Document use** **Numeracy** **Working with others**
Enhancing human resources	**Retention, absenteeism, receptivity to learning**	55	60	49	50	**Continuous learning**

Source: Calculations by SRDC based on data from the organizational needs assessments.

In another top priority area for firms — maintaining service excellence — there were significant performance gaps identified by the majority of employers for most occupations, including aspects of both *service quality* and *task efficiency*. Food and beverage service was identified by 87 per cent of employers as needing improvement, followed by guest service/front desk with 86 per cent, kitchen operations at 85 per cent, and housekeeping at 73 per cent. Quality and efficiency are intimately tied in a service setting e.g. both the *accuracy* and *speed* of a service such as check in/check-out are vital to customer satisfaction. Performance in these areas depends on all the Essential Skills; five were measured directly in UPSKILL through the Skills Snapshot (document use and numeracy) and industry performance assessments (oral communication, problem solving, working with others).

Employee recruitment and data collection

Table 4 illustrates that a total of 1,438 participants signed a project consent form and completed a baseline survey. There were three primary components to the employee baseline data collection, each repeated at follow-up:[6] a baseline survey which asked for information on key sociodemographic traits (only at baseline) and outcome variables, a Skills Snapshot (TOWES) which assessed participants' document use and numeracy skills, and an *emerit* industry performance assessment where participants were observed on the job and assessed for the skills considered essential to their specific job.[7]

6 Where time permitted, the Skills Snapshot was completed twice during the follow-up period – once in the first or second month following the end of training, and again usually 4-5 months later, depending on the length of training. See chapter 4 for more details on the timing of assessments.

7 All performance assessments were completed in person except those for front desk agents which were completed through a structured telephone interview.

Table 4 Employee participation in key project research elements, by province

			Follow-up survey		Follow-up Skills Snapshot		Follow-up performance assessment	
Prov.	No. who completed baseline survey	No. who were randomly assigned	No. who completed	Response rate (%)	No. who completed	Response rate (%)	No. who completed	Response rate (%)
NL	158	132	73	55.3	63	47.7	54	40.9
NS	76	72	38	52.8	36	50.0	21	29.2
NB	133	118	56	47.5	34	28.8	13	11.0
ON	250	216	135	62.5	134	62.0	118	54.6
MB	59	58	25	43.1	29	50.0	26	44.8
SK	138	105	55	52.4	62	59.0	64	61.0
AB	95	95	62	65.3	63	66.3	44	46.3
BC	529	512	346	67.6	375	73.2	301	58.8
Total	**1,438**	**1,308**	**790**	**60.4**	**796**	**60.9**	**641**	**49.0**

Source: Response rates calculated from surveys, Skills Snapshots, and performance assessments.

Project partners were asked to notify SRDC when participants withdrew from the project between the time of the baseline survey and the time of random assignment. In total this happened in 130 cases (9.0 per cent), most often due to the fact that participants had left their position at the hotel. As shown in the third column of Table 4, this resulted in a total of 1,308 participants who were randomly assigned, becoming the research sample of program or control group members for the duration of the project. Columns to the right show the participation rates for each of the follow-up data collection activities. There were 790 who completed a follow-up survey, for a response rate of 60.4 per cent. The response rate to the follow-up Skills Snapshot assessment was nearly identical (60.9 per cent), reflecting that participants often completed these two activities on the same day. The response rate for the follow-up job performance assessments was lower (49 per cent), largely due to logistics of completing the performance assessment on an individual basis with a qualified assessor, who on occasion had to travel from another community. Nonetheless, the lower response rates to this instrument did not compromise its analytical use, as the program and control group composition and similarity was maintained (see *Comparability of program and control groups* at the end of this chapter).

Profile of participating workers

This section provides a profile of the participants in the research sample, i.e. the 1,308 who chose to join the study and were randomly assigned. The profile is based on information from the three main

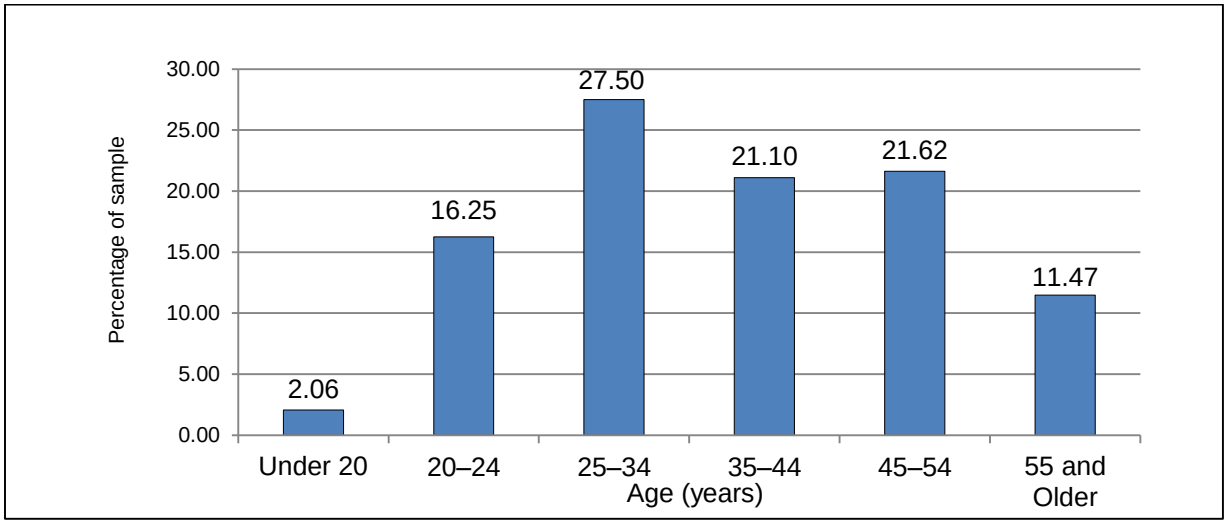
data collection instruments administered on-site to employees at baseline: the survey administered in a group setting by a project representative to capture sociodemographic and psychosocial characteristics; the Skills Snapshot administered in a group setting by a certified TOWES Test Administrator to capture baseline Essential Skills levels; and the performance assessment, administered one-on-one by a CTHRC-certified assessor.

Sociodemographic, lifecycle, and employment characteristics

A majority of the sample members were women (72.3 per cent), owing largely to the number of housekeeping room attendants in the project, and the preponderance of women in this occupation. On average, sample members were about 38 years of age. Figure 4 indicates that two-thirds (67 per cent) of the sample was under 45 years of age, somewhat greater than the proportion for this age group in total employment according to the Labour Force Survey (57 per cent).[8] Very few were under 20 years of age.

Most participants in the research sample had attained at least a high school diploma (84.6 per cent) and many reported also completing some form of post-secondary education certification. A college diploma had been attained by 36.3 per cent of the sample, while 28.9 per cent had completed a trade or vocational certificate, 7.2 per cent an apprenticeship diploma, and 17 per cent a university degree.

Figure 4 Age composition of UPSKILL participants: Per cent distribution



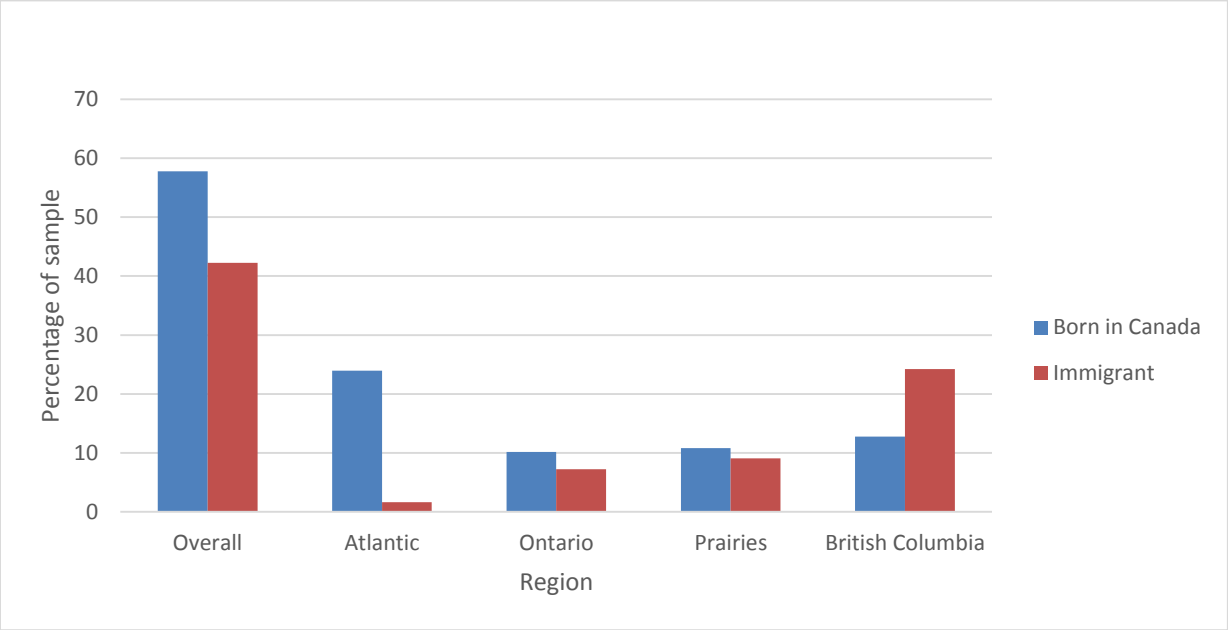
Source: SRDC calculations using information from the UPSKILL baseline survey.

The research sample contained a large proportion of immigrants (42.3 per cent). Figure 5 indicates that in British Columbia immigrants out-numbered non-immigrants by about two to one and represented by far the largest proportion of immigrants across the regions. The language reported to be spoken most often at home was English, at 69.5 per cent of the sample, while about one-fifth indicated speaking a

[8] Statistics Canada. Table 282-0002 - Labour force survey estimates (LFS), by sex and detailed age group, annual (persons unless otherwise noted), CANSIM (database). Retrieved from http://www5.statcan.gc.ca/cansim/a05?searchTypeByValue=1&lang=eng&id=2820002&pattern=2820002. (accessed: 2014-07-15)

language other than English or French at home. The remainder spoke English or French in combination with another language.

Figure 5 Immigration status of UPSKILL participants: per cent distribution, by region



Source: SRDC calculations using information from the UPSKILL baseline survey.

About half of the sample was living with a spouse or partner – 36.9 per cent married and 13.8 per cent common law, while 39 per cent identified as "single, never married". The vast majority of sample members lived in households comprised of two or more persons. Only 17.8 per cent reported living alone and about half (51.1 per cent) lived in adult-only households.

The distribution of household income, before taxes and deductions, shows that about 22.5 per cent of sample members lived in households with an income level that was less than $20,000, and 23.3 per cent made between $20,000 and $30,000. About one-fifth (20.7 per cent) had household income between $30,000 and $40,000, and just over one-third were in the $40,000 or more category. The majority of households had two or more people contributing to the household income.

While UPSKILL participants tended to be part of their firm's more stable workforce,[9] variability in job tenure was noted among participants. The vast majority (90 per cent) were permanent employees, with an average tenure of 5.6 years; however, a full two-thirds had been at their current hotel for less than five years, reflecting the presence of a smaller number of very long-term employees driving up the

9 The high number of permanent, full-time sample members is largely due to the targeting and communication used for recruitment in the study. The recruitment messages to management and employees indicated that those who sign up for the study should be planning to stay at the hotel for the duration of the project (about 9-12 months in each hotel).

average. The average number of hours worked per week was 37.2, somewhat less than the average in the overall workforce (38.5).[10] The average hourly wage after taxes and deductions for UPSKILL participants was $11.69.

By occupation, the largest proportion of sample members (43 per cent) worked as housekeeping room attendants. The next largest group was comprised of front desk agents (25 per cent), followed by food and beverage servers (21 per cent) and kitchen staff (11 per cent). This pattern held across all regions.

Attitudes and health

In terms of attitudes towards education and training, Table 5 indicates that over three-quarters of the sample (77.7 per cent) were interested in more education and training in the future, although only 10.7 per cent were studying towards a degree at that time. The majority reported having a positive experience in school throughout their school life, with 61.9 per cent reporting a somewhat or very positive experience.

Table 5 Education attitudes of UPSKILL participants: per cent indicating response

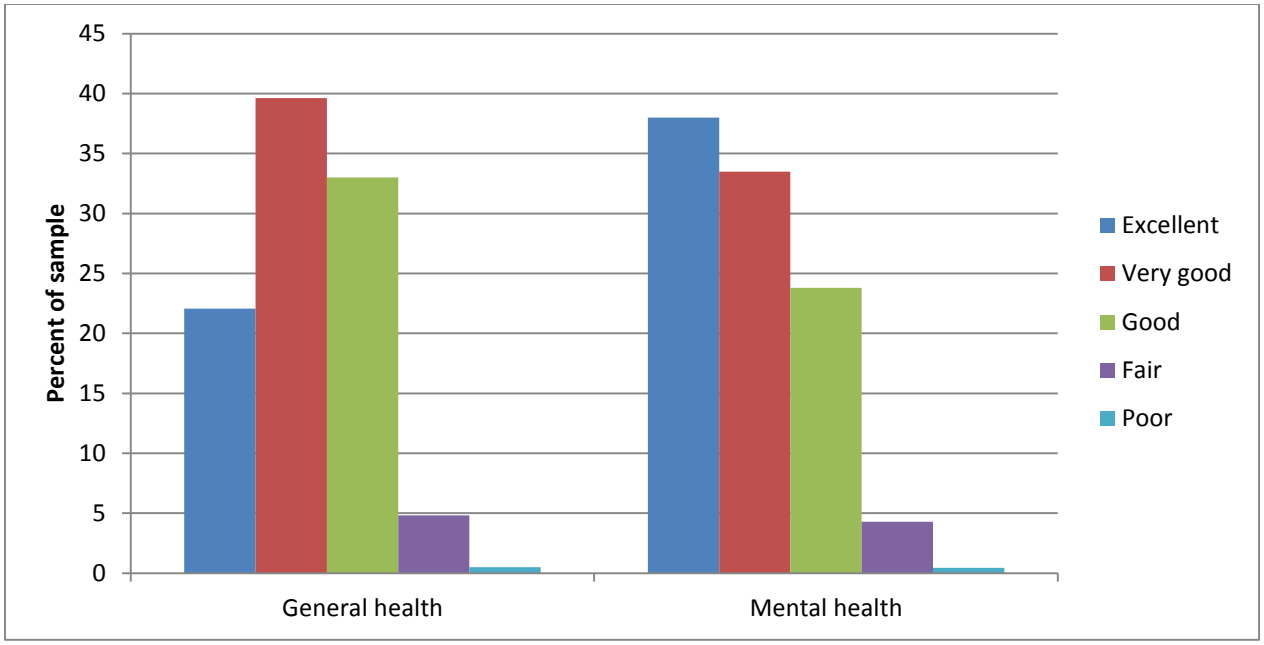
Attitude indicator	%
Currently studying towards a degree	10.7
Interested in more education and training in the future	77.7
Experience in school from first grade to when left:	
Very negative	4.0
Somewhat negative	9.1
Neutral	25.0
Somewhat positive	29.4
Very positive	32.5
Sample size	**1,435**

Source: SRDC calculations using information from the UPSKILL baseline survey.

In general, the baseline health and mental health of participants was good, with very few reporting poor health. As shown in Figure 6, an overwhelming majority of the sample (about 95 per cent) reported good, very good or excellent general health as well as good, very good or excellent mental health. Further, when asked about absenteeism due to health-related issues, on average about 3 or less days were missed at work in the four weeks prior to the survey due to emotional or physical illness.

[10] Statistics Canada. Table 282-0028 – Labour force survey estimates (LFS), by total and average usual and actual hours worked, main or all jobs, type of work, sex and age group, annual (hours), CANSIM (database). Retrieved from http://www5.statcan.gc.ca/cansim/a47 (accessed: 2014-07-15).

Figure 6 Health and mental health status of UPSKILL participants: per cent distribution by status

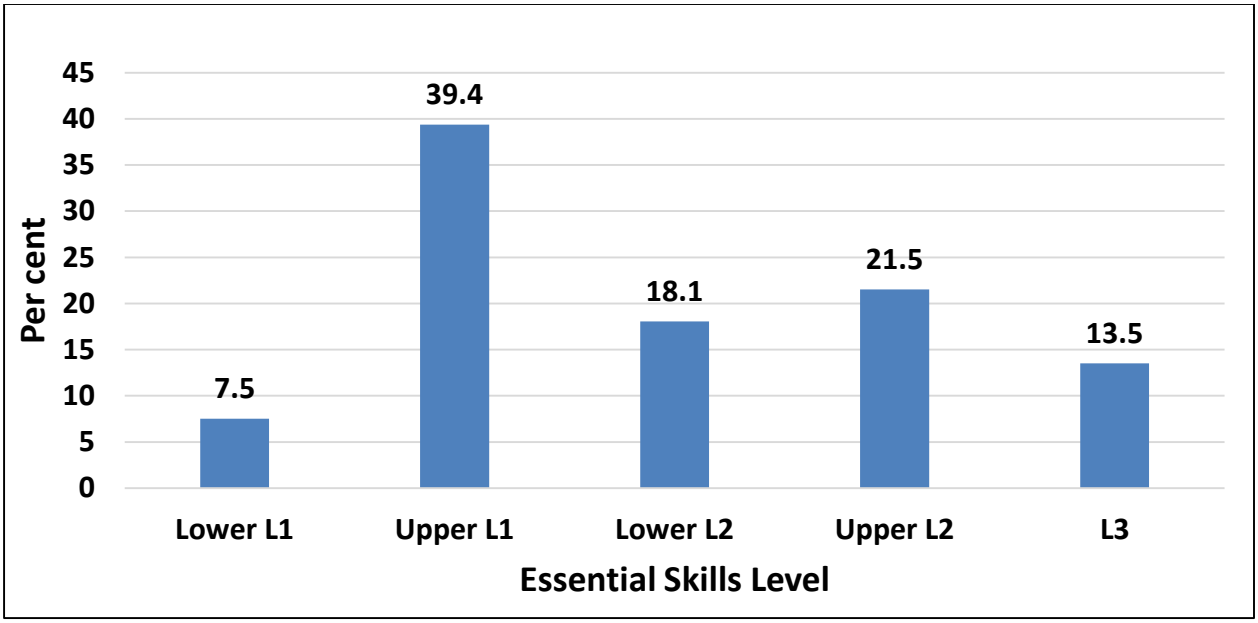


Source: SRDC calculations using information from the UPSKILL baseline survey.

Baseline Essential Skills and performance levels

The average document use score of UPSKILL participants at baseline was 227. As shown in Figure 7, more than 85 per cent of sample members scored below Level 3 on document use. The largest proportion of the sample was at upper Level 1, with nearly 40 per cent in that category. Only about 7.5 per cent were at lower Level 1 and 14 per cent at Level 3.

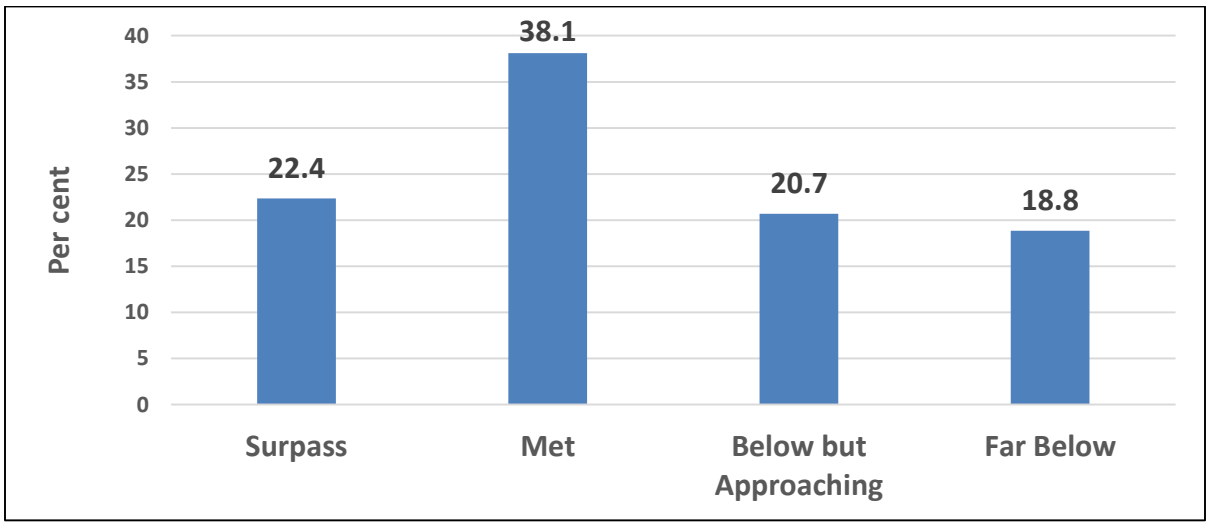
Figure 7 Baseline distribution of document use scores



Source: SRDC calculations using information from the Skills Snapshot results.

As shown in Figure 8, based on the results of baseline performance assessments, only three in five members of the research sample met or exceeded the industry standards at baseline, with 38 per cent meeting it (scoring between 85 and 95 per cent) and 22 per cent exceeding it (scoring above 95 per cent). A full 40 per cent of participants failed to meet the job performance standards for their occupation, 21 per cent below but approaching the standard (scoring between 65 per cent and less than 85 per cent) and another 19 per cent who were far below the standard (scoring less than 65 per cent).

Figure 8 Baseline distribution of performance assessment scores



Source: SRDC calculations using information from the baseline performance assessment results.

Comparability of program and control groups

The power of the experimental method lies in the comparability of the program and control groups in their baseline characteristics. If the two groups are statistically similar prior to the intervention, any differences in the outcomes of the two groups over time can be reliably attributed to the program. As described in Appendix A, SRDC undertook a comparison of the baseline characteristics between program and control group participants — first among the full baseline sample, and second among only those who completed the follow-up survey or assessments. This allows consideration both of differences that arise by chance through random assignment and differences in non-response to follow-up data collection.

Within the entire baseline sample, some differences between the program and control groups existed but were relatively minor and within the expected range for random error. Similarly, non-response to follow-up surveys and assessments was similar between the two groups and did not compromise the comparability of program and control groups. As a result, the impact estimates provide a true measure of the effects of UPSKILL training on workers and firms.

Unadjusted impact estimates using difference-in-difference (d.i.d.) are presented throughout the report when outcomes have been measured both pre- and post-intervention i.e. mean differences in the change between program and control group outcomes. When outcomes have only been measured post-intervention, regression-adjusted impacts are presented throughout the report in order to increase the precision of these cross-sectional impact estimates. A sensitivity analysis was performed on key outcomes, which compared unadjusted impact estimates with those from various regression-adjustment models and we can conclude that the primary findings of this report are not sensitive to the estimation method used. Further details on the analysis of baseline characteristics and non-response is found in Appendix A.

Chapter 3: Training take-up and duration

This chapter describes the UPSKILL training offer and presents take-up rates among firms and participants, and characteristics of trainees and non-trainees. In addition, the number of hours offered and received is reviewed including a discussion of the training content, by module. Regional breakdowns are also provided where relevant and where sample size permits. A final section provides a concluding summary of the analysis of UPSKILL's implementation with a focus on the extent of program fidelity and a series of lessons learned in delivering training in a workplace context. The primary data source for this chapter is the participant management information system (PMIS) which allowed instructors to record detailed information about UPSKILL training delivery and attendance. This was supplemented with a number of qualitative sources including depth interviews with program delivery staff, described in more detail in Appendix B.

Summary of findings

- **Training take-up was high among eligible firms with 98 per cent of program group firms receiving at least an hour or more of training. However, a smaller proportion of eligible participants received at least some training, as many left the hotel prior to training onset.** Among the firms randomly assigned to the program group, 44 of 45 completed at least some training. Among employees, 71 per cent of those enrolled completed at least some training. Most of those who did not complete any training left the hotel between the time of enrollment and the time of training onset.
- **While each program group hotel was offered up to 40 hours of UPSKILL training, on average employers provided only about half of that in release time for their participants.** As a result, the amount of training made available to participants was less than expected at about 19 hours on average per participant. Differences between what was offered and what employers made available arose largely from ongoing business constraints in the workplace. It was often difficult for employers to release staff from regular duties even during off-peak seasons.
- **When employers made the release time available to employees, attendance was high with participants receiving an average of 17.7 hours of training out of a total of 19 hours offered.** Once participants began the training, there was high attendance with participants missing only a fraction of what was offered. Hours received were generally highest among housekeeping room attendants (HRAs) in British Columbia at about 20 hours received and lowest among line cooks in the Prairies at about 11 hours received.
- **While the number of contact hours for classroom-based modular training was in line with expectations, the use of self-directed learning activities was much lower than expected.** Overall, only 36.2 per cent of participants spent any time on self-directed activities (SDAs) that were available as part of the UPSKILL curricula. Among those who used the SDAs, average usage ranged from about 1 hour for front desk agents to 2.2 hours for food and beverage servers.
- **UPSKILL instructors covered the core curricula in a comprehensive fashion:** While instructors could customize elements of the curricula, they covered core elements with some consistency. Most

participants received the core modules for their occupation, which covered the targeted Essential Skills of oral communication, thinking skills/problem solving, document use, numeracy, and working with others. In terms of business and performance areas covered, the most prominent in terms of total hours was guest relations, followed by productivity.

Training take-up

Among the 45 hotels assigned to the program group, the take-up of the UPSKILL training offer was very high. It appears that by the time the hotels received the offer of training, they were very motivated to participate. UPSKILL participants in 44 of the 45 hotels received at least some training (Table 6). Hotels that were not as motivated were more likely to withdraw at earlier stages of the project.

Take up was not as high among individual learners as it was for firms, largely due to employees leaving the firm prior to the commencement of training. Table 6 indicates that, overall, 71.4 per cent of participants who were enrolled received at least some UPSKILL training. As with participation rates for data collection activities shown in the previous chapter, training take-up rates tended to be lower in the Atlantic region, and varied considerably by province from a high of 90.9 per cent in Manitoba to a low of 44.7 per cent in New Brunswick.

Table 6 Enrolled versus trained, by province

Province	Hotels in the program group	Hotels that received training	Learners enrolled	Learners trained	Take-up rate (%)
NL	5	5	77	50	64.9
NS	2	2	48	26	54.2
NB	5	5	85	38	44.7
ON	8	8	143	113	79.0
MB	3	3	33	30	90.9
SK	5	5	68	47	69.1
AB	2	2	54	47	87.0
BC	15	14	279	211	75.6
Total	**45**	**44**	**787**	**562**	**71.4**

Source: Calculations by SRDC based on Participant Management Information System (PMIS).

Table 7 shows the take-up rate by occupation and province. It indicates that training take-up was fairly high and similar across occupations. Training was somewhat more popular among housekeeping room attendants (HRAs), for whom take-up was 77.5 per cent, followed by front desk agents (FDAs) and line cooks (LICs), at 68.5 per cent and 69.4 per cent respectively. Take up among food and beverage and banquet servers (FBSs) was somewhat lower at 64.4 per cent.

Table 7 Training take up, by occupation and region

Province	HRA	FDA	FBS	LIC	Total
Atlantic	53.1	56.9	48.5	65.5	54.3
Ontario	91.1	83.9	65.9	73.1	79.0
Prairies	83.7	72.0	82.1	68.8	80.0
BC	80.8	68.9	75.6	71.4	75.6
Total	**77.5**	**68.5**	**64.4**	**69.4**	**71.4**

Source: Calculations by SRDC based on Participant Management Information System (PMIS).

This occupational pattern of take-up holds true throughout the regions with a few exceptions. The Atlantic region is the only area where HRAs did not have the highest take up, with FDAs and LICs more engaged in that region. In the Prairies and BC, while HRAs still had the highest take-up, FBSs had a higher relative take-up rate than both FDAs and LICs.

Comparing trainees and non-trainees

To better examine the characteristics of participants who took up the offer, trainees and non-trainees were compared on several variables (Table 8). For most variables, there were few differences of note; however, three characteristics stand out. First, non-trainees were younger — they were more likely to be 24 years of age or less (24.5 per cent) compared to trainees who were more likely to be 45 years or older (36.3 per cent). Second, trainees were more likely to be immigrants than non-trainees (49.6 versus 29.9 per cent, respectively). Third, regarding their employment status, the differences, though not large, together form a picture of trainees being more permanent, full-time employees of the hotel. In summary, UPSKILL training appears to have been less attractive to a group of younger, Canadian-born workers who were more likely to be in temporary positions with the hotel. As a result, although they were assigned to the program group eligible to receive Essential Skills training, they were less likely to receive it.

Table 8 Profile of those who took training versus those who did not

Baseline characteristic	No training taken	Training taken
Gender (%)		
Female	70.2	72.3
Male	29.8	27.7
Age (%)		
<=24	24.5	14.0
25-44	50.9	49.7
45+	24.5	36.3
Average years with hotel	4.5	6.0
Country of birth (%)		
Canada	70.1	50.4
Other	29.9	49.6
Paid hours per week	34.5	37.5
Permanent versus temporary (%)		
Permanent	85.3	90.3
Temporary	14.8	9.8
"I have reading skills in English I need to do my main job well." (Agree and strongly agree) (%)	91.8	86.9
"I have the writing skills in English I need to do my main job well." (%)	89.9	83.7
Sample size	225	562

Source: Calculations by SRDC based on participant management information system (PMIS) and baseline survey.

Notes: Missing values have been excluded from the calculations.

Amount of training offered and received

While employers were offered up to 40 hours of LES training, it was up to them to decide how much employee time they would make available for training, given that it took place during work hours. In other words, a key constraint on training duration was the amount of release time that employers allowed for their staff to participate. Beyond the employer's provision of release time, participants could then decide whether or not to attend training on any given day. The key question then, beyond the training take-up rate, is *how much* training was offered to participants in light of the release time

employers allowed – and, ultimately, how much training they chose to receive. This question is first explored by looking at how much training was *offered*, i.e. the average amount of training made available assuming that every participant in the project took the maximum amount that their employer allowed. This concept is useful for considering decisions made by the employer that impacted training duration. Later in the section the amount of training *received* is examined, reflecting decisions made by the participants and trainers.

Table 9 presents the average training hours offered, by occupation and province. On average, considering all occupations, participants were offered just under 20 hours of training (19.1 hours). Nova Scotia had, by far, the highest number of hours offered at 30.4, which is not unexpected given the training model in that province, which emphasizes longer duration Essential Skills training. In all the other provinces but Manitoba, the amount of training offered was much lower and fairly similar (16.8-20.5 hours) across jurisdictions. By occupation, Table 9 also indicates that training hours offered were lowest for line cooks, at 16.5 nationally, with higher counts for the other three occupations (18.6-19.9 hours). In many provinces, line cooks had the lowest number of hours. For the other three occupations, there was little differentiation in the number of training hours offered.

Table 9 Average hours of training offered, by province and occupation

Province	HRA	FDA	FBS	LIC	All occupations
NL	15.0	17.8	19.6	14.0	16.8
NS	31.1	27.4	32.2	N/A	30.4
NB	17.7	15.7	16.7	16.8	16.9
ON	18.7	18.6	18.3	17.8	18.4
MB	14.5	13.1	11.3	11.2	13.0
SK	18.5	17.2	15.7	14.1	18.0
AB	20.7	14.2	17.0	13.8	18.2
BC	21.5	19.8	18.2	21.0	20.5
Total	**19.9**	**18.6**	**19.2**	**16.5**	**19.1**

Source: Calculations by SRDC based on participant management information system (PMIS).

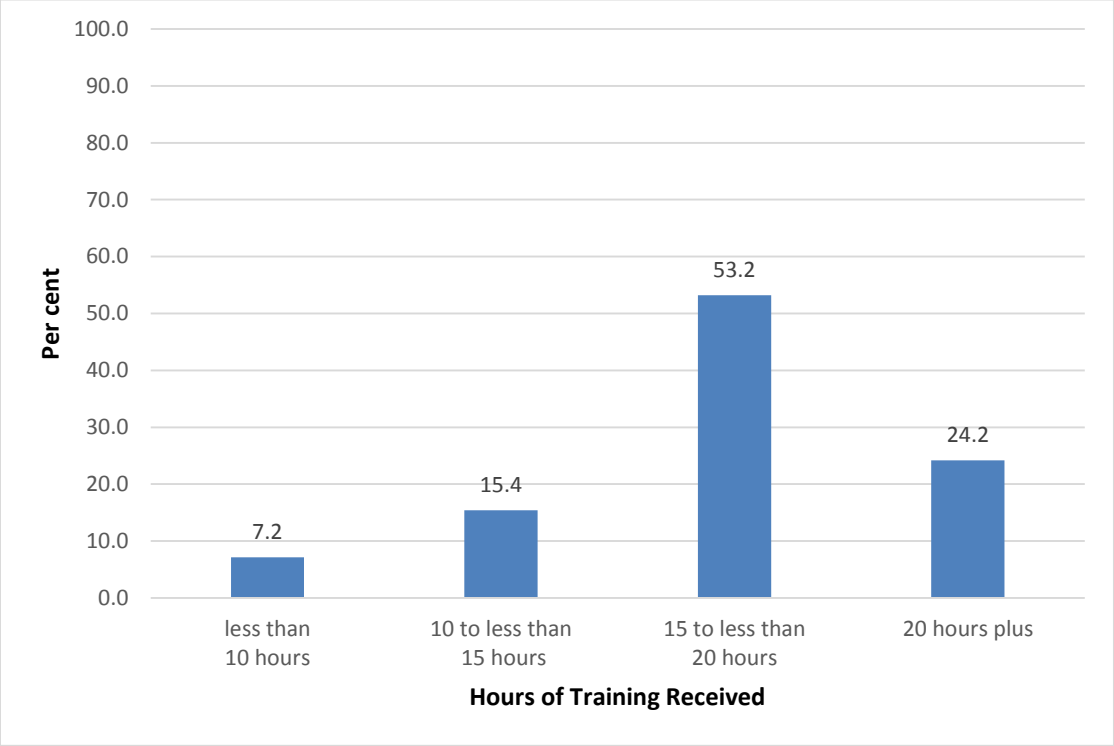
Amount of training received

On average, participants received 17.7 hours of training comprised of the core modules plus self-directed activities. The difference between hours offered and received is 1.4 hours on average, or about eight per cent of the hours offered. This indicates that once participants began the training, there was very high attendance, with participants missing only a small fraction of what was offered. The larger drop-off was among participants who signed up but did not take any of the training. As noted regarding the amount of training offered, the amount received was relatively equal among housekeeping room attendants, front desk agents and food and beverage servers, and lower among line cooks.

Distribution of training received, given available release time

As shown in Figure 9, among those who received any training, the largest category of participants was those who received between 15 and 20 hours, representing over half (53.2 per cent) of participants. Only 7.2 per cent received less than 10 hours, while 15.4 per cent received between 10 and 15 hours of training. One in four participants (24.2 per cent) received 20 or more hours of training.

Figure 9 Distribution of training hours received, given release time



Source: Calculations by SRDC based on participant management information system (PMIS).

Training delivery: self-directed activities and training modules

Each of the four occupation-specific curricula contained a series of self-directed activities (SDAs) which could be used to supplement the core modules. These exercises allowed participants to practice their Essential Skills — particularly document use and numeracy. Instructors were given considerable flexibility to use the SDAs as they saw fit; some instructors chose not to use them at all. According to the PMIS, the SDAs were used in just over half (27 of 45) program group hotels. As shown in Table 10, only 36.2 per cent of participants who took any of the training had self-directed learning time. The number varied considerably, however, by occupation: whereas 46.6 per cent of FDAs and 40.9 per cent of HRAs used some of the SDAs, only 22.8 per cent of line cooks and 22.4 per cent of servers did so. In addition to the limited take-up of SDAs, the time commitment was minimal. Among those who used the SDAs, average usage ranged from about 1 hour for line cooks to 2.2 hours for food and beverage servers.

Table 10 Self-directed activities, by occupation

Occupation	% of Participants with self-directed learning completed	Average minutes engaged in self-directed learning
HRA	40.9	107
FDA	46.6	99
FBS	22.4	130
LIC	22.8	63
Total	**36.2**	**105**

Source: Calculations by SRDC based on participant management information system (PMIS).

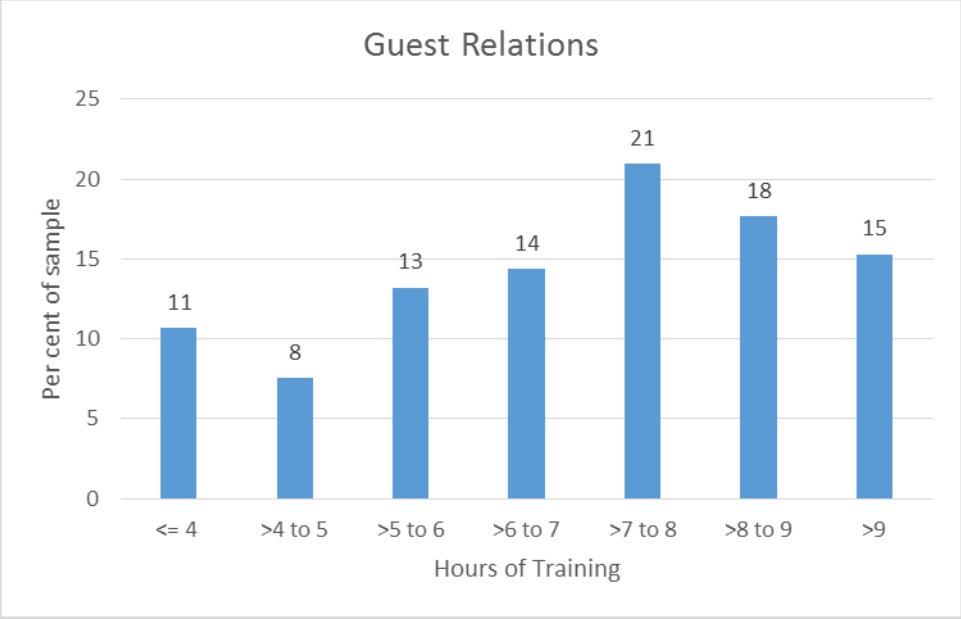
Regarding the choice of training module, the UPSKILL model included core curricula based on SNA with modest customization to make it applicable to the specific needs of each hotel. To the extent the core curricula met the overall needs of most trainers and hotels, trainers could be expected to use the majority of the training modules. Based on data from the PMIS, this appears to have been the case. For example, among the 40 hotels where the housekeeping room attendant curriculum was used, all seven core modules were in the vast majority of them (35), and all but one were used in another four hotels.

Training content: time spent on key performance areas

Because each lesson touched on one of the key worker performance areas, training time can be categorized according to the performance area covered and the respective business need. About half the time (430.8 minutes out of a total of 853.8 minutes, or 50.4 per cent) was spent on training that addressed the business need of guest relations — which included training in oral communication, problem solving/thinking skills, and document use. A much lower but still sizable amount of the training (171.8 minutes or 20 per cent of training) was spent on productivity — which included document use, numeracy, and working with others. Health and safety training took an average of 114.3 minutes or 13.4 per cent of the overall average, focusing largely on document use and numeracy. Continuous learning comprised less than 10 per cent of the training time, on average.

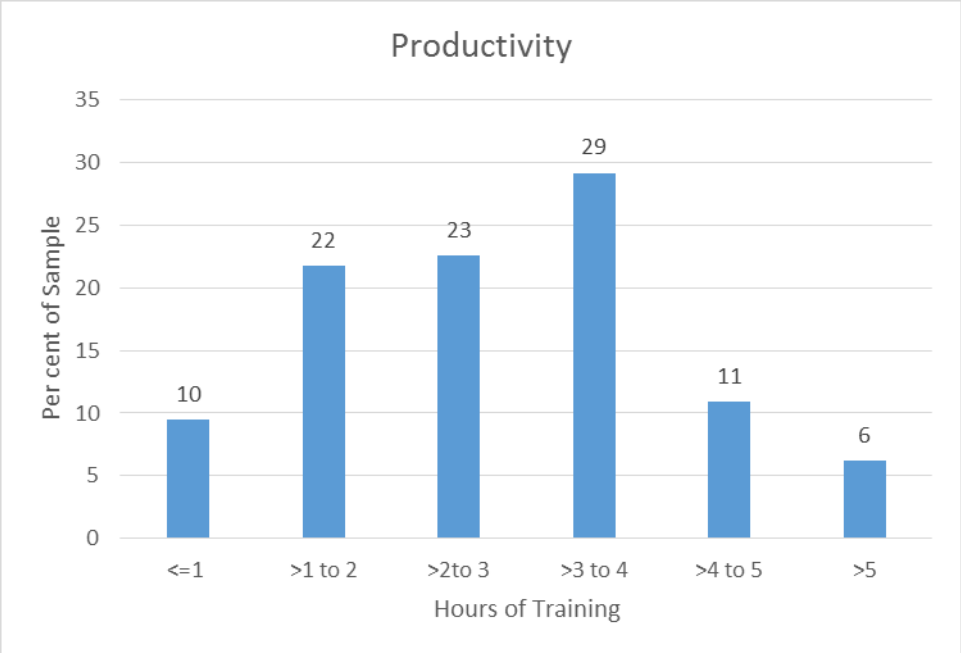
Figure 10 illustrates the distribution of training hours for the primary business need of guest relations. A little over half of the sample (53 per cent) was relatively tightly clustered around the mean with between six and nine hours spent on guest relations. However, there was still a sizable portion farther removed from the mean with 31.5 per cent less than 6 hours and 15.3 per cent greater than 9 hours. A similar pattern exists with productivity (Figure 11) with 51.7 per cent of the sample relatively tightly clustered around the mean with between 2 and 4 hours spent on this performance area while 31.2 per cent of the sample had less than 2 hours and 17.9 per cent had more than 4 hours.

Figure 10 Distribution of time spent on guest relations



Source: Calculations by SRDC based on participant management information system (PMIS).

Figure 11 Distribution of time spent on productivity



Source: Calculations by SRDC based on participant management information system (PMIS).

Implementing UPSKILL: program fidelity and lessons learned

Program fidelity refers to the extent that the training intervention was implemented in a manner that was consistent with the intended model. Establishing program fidelity is essential to the analysis of the impacts of UPSKILL as it allows us to affirm that the intended model of LES training received a "fair test". Any departures from the intended model need to be documented and interpreted appropriately. Appendix B provides a detailed analysis of the implementation of UPSKILL including an assessment of program fidelity and provides a series of lessons learned in the delivery of LES training in a workplace context.

In summary, the UPSKILL program did, indeed, receive a "fair test". Participants understood the offer and a high degree of program fidelity and consistency in delivery was maintained. Service delivery partners were largely able to coordinate delivery of the program as outlined, so that the implementation met basic project requirements and guidelines. They worked with employers, instructors and employees to complete engagement, recruitment, data collection, curriculum customization, and training delivery. The primary challenges were engaging sufficient numbers of firms to meet the research needs, maintaining the cooperation of firms throughout the full extent of program delivery and data collection, scheduling training to meet both employer and project needs, and the general lack of a training culture in some firms that would help facilitate implementation of a program like UPSKILL. Overall, the training program received a largely positive review by project stakeholders. The project provides important lessons learned for implementing LES training in the workplace.

Chapter 4: Impacts on Essential Skills and job performance

This chapter presents the impacts of UPSKILL on the Essential Skills levels of participants and key indicators of their job performance. The primary goal of UPSKILL was to raise Essential Skills in an effort to improve job performance and key business outcomes. To meet this objective, project partners conducted a detailed sector and organizational-specific needs analysis with each employer at the onset of their enrolment in the program. This analysis identified the most important gaps in their workers' skills and performance that would need to be addressed in order to enhance business outcomes and provide a positive return from training investments. Through that investigation, six primary business needs, along with a series of worker performance requirements were consistently identified as being the key to meeting overall business objectives and achieving positive financial returns:

- **Enhancing guest relations** through effective communication and resolving customer complaints;
- **Maintaining service excellence** through consistent and high standards of service provision;
- **Increasing productivity** through better organizational skills and more effective teamwork;
- **Increasing sales** through improved product knowledge and more effective upselling;
- **Improving health and safety** through better health and safety practices and emergency preparedness; and
- **Enhancing human resources** through increased retention and lower absenteeism.

The Essential Skills targeted in the UPSKILL training program, which underlie each of these performance areas are:

- **Oral communication**
- **Document use, reading**
- **Numeracy**
- **Thinking skills/Problem solving**
- **Working with others**

Oral communication and thinking skills are fundamental to effective customer relations, problem solving, and complaint resolution. Document use, reading, numeracy and working with others, are each critical to the business objectives of service excellence, efficiency and productivity, effective sales, and health and safety. While writing and digital technologies are also important skills for several of the targeted occupations, they were largely deemed out of scope for the purposes of UPSKILL training.

Summary of findings

- **Essential Skills training produced significant increases in the average document use scores of program participants compared to those without training in the control group**. Among program participants, average gains in document use scores were about a quarter of a level, 12 points, in the first follow-up assessment immediately after training and up to 18 points in the

second follow-up after about 9 months. In contrast, control group members experienced only a modest increase in scores at the first follow-up (2.2 points) and a slight decrease by the second.

- **The positive impacts of Essential Skills training on average document use scores increased to about half a level among those with assessments more than a year after enrolment**. Among those with fairly immediate assessments, i.e. less than 6 months after their enrolment, average gains for program participants were about a quarter of a level, or 11 points, compared to the control group. This increased significantly among those with assessments that were completed more than 12 months after enrolment to 23 points, or nearly a half a level.
- **The percentage of program participants with document use skills in the upper Level 2 and Level 3 range increased substantially compared to those who did not receive training**. The positive impacts on average scores were accompanied by a significant positive shift up the distribution, where 20 percentage points more program participants had document use skill levels in the mid-to-upper Level 2 and Level 3 range after training compared to the control group. Positive impacts on numeracy skills of program participants were also observed, though with more modest gains than document use, and which declined somewhat over time.
- **Large positive impacts were observed on participants' oral communication and problem solving abilities, crucial for resolving customer complaints and maintaining satisfaction**. Program group members had an increase of nearly 20 percentage points in the likelihood of meeting industry standards in their ability to communicate with guests, compared to the change in the control group. For an average employer, with 15 participants enrolled, this translates into 3 additional employees performing at high standards who would have failed without training.
- **UPSKILL training produced significant improvements in the job performance of participants in nearly all of the primary business areas of interest to employers** including guest relations, maintaining service excellence, increasing sales, productivity, and improving health and safety. Significant gains in productivity were observed through more effective teamwork and better organizational skills of participants, which relate to task efficiency and cost control. UPSKILL program group members were 15 percentage points more likely to *surpass* industry standards in the areas related to productivity than the control group.
- **Overall, the Essential Skills training intervention resulted in significantly higher success rates for participants on the performance component of industry certification**. After participating in UPSKILL training, program group members were 12 percentage points more likely to successfully pass the performance assessment when compared to the control group, which may reinforce their future training goals, career paths, and employment prospects.

Data sources

This chapter presents the impacts of UPSKILL training on the Essential Skills of participants using both standardized skills assessments and observational industry performance assessments linked with National Occupational Standards. For assessing document use and numeracy, the Test of Workplace Essential Skills (TOWES) was utilized. Text Box 1 provides a brief summary of the Essential Skill Levels.

Impacts on oral communication, thinking skills/problem solving, and working with others (teamwork), were derived from job performance indicators assessed through pre- and post-training observations by independent industry-trained assessors certified through the Canadian Tourism Human Resource Council (CTHRC). The specific indicators are part of the emerit© industry-certification program for each occupation, built on the National Occupational Standards and aligned with each of the six core business objectives identified by employers in UPSKILL.

Text Box 2 provides additional detail on the specific data sources and methodology for assessing job performance.

Box 1 Document use and numeracy scores, by level

Level 1: scores of 0-225: Persons with very poor skills.

Level 2: scores of 226-275: Marginally-skilled individuals who can deal only with simple, clearly laid out materials and tasks. Reading level is poor. Skill level may be masked by coping abilities to manage everyday demands, but may have difficulty learning new job skills, for instance.

Level 3: scores of 276-325: Skill level approximates level required for successful secondary school completion and college entry. Requires ability to integrate several sources of information and solve more complex problems.

Levels 4 and 5: scores of 326-375 and 376-500, respectively: Ability to perform higher-order information processing.

Sources: Conference Board of Canada (2006) and Statistics Canada and OECD (2005).

Box 2 Data sources and methodology for assessing performance

The workplace performance outcomes in this chapter are based on the industry certification performance assessment, *emerit*, coordinated by the Canadian Tourism Human Resource Council (CTHRC). Minor updates and additions were made to the original assessment in order to align it with the updated National Occupation Standards, the UPSKILL employer needs analyses, and to sufficiently cover Essential Skills concepts such as oral communication and working with others. The assessments are occupation-specific and were conducted by CTHRC certified assessors at each workplace participating in the UPSKILL study. The assessments were administered at the point of enrolment prior to training and again at 9 months post-training to participants within four occupational groups: custodial positions (housekeeping room attendants, maintenance) administrative and sales positions (front desk agents, reservation sales agents), serving occupations (food and beverage servers, banquet servers), and culinary occupations (line cooks). Some occupations have been excluded from the analysis due to small sample sizes.

In this chapter, impacts are measured as the difference in performance change between program and control groups from baseline to about nine months after training. With a random assignment design, any difference between the program and control groups provides a reliable measure of the impact of the training on performance. The percentage change in program and control group members who achieved various performance levels on each industry standard is compared. Performance scores are grouped according to four categories defined by the degree to which the participant has met or not met the industry standards: *surpassed, met, below but approaching, and far below*.

While the precise thresholds for each group vary slightly by occupation and task, *surpassing* standards generally equates to meeting ALL or nearly all of the items for that task (95 to 100 per cent). *Meeting* standards is a consistently high threshold of approximately 85 per cent; *below but approaching* standards varies by task but is generally between 65 and 85 per cent. Finally, *far below* standard would generally be anything below 65 per cent, failing to meet more than a third of the items in the standard.

Mean impacts on document use and numeracy scores

Table 11 presents the impacts of UPSKILL on average document use scores. The first two rows indicate that program group participants gained on average 12.8 points in document use skills for those who took the first assessment test (administered between months 1-9) immediately after training and 16.4 points for those who took a second assessment test (from 6-9 months later). In contrast, control group members experienced only a modest increase in scores at the first follow-up (2.2 points) and a slight decrease in the second (-1.8 points). Comparing the pre/post-training differences for program and control groups yields an UPSKILL impact of 10.6 points on document use at the first follow-up assessment, which is close to a quarter of an ES level (about 12 points) and then rising to 18.2 points at the second assessment.

Given that the timing of the two post-training assessments varied considerably across the sample, results can be re-organized based on the number of months that had elapsed since each participants' enrolment date. Given that the timing of assessments in program and control groups was matched (i.e. control group firms received assessments at about the same time as their matched-pair in the program group) these comparisons yield experimental impacts. When considering the results based strictly on the timing of the assessment, rows 3-5 illustrate that among those with more immediate assessments,

i.e. less than 6-months after enrolment, differential pre/post training gains were 11.9 points in favour of the program group, representing a gain of about a quarter of an ES level. Impacts declined somewhat, however, among those with assessments between 6 and 12 months after enrolment, to about 7.8 points, but then rose significantly among those with second assessments that took place 12 months or later after enrolment, to 22.9 points. This represents a gain of about half an ES level, which is twice as large as it was about 6 months earlier. The pattern of results in both the first and second panel of Table 11 suggests that ES gains may indeed propagate over time as one engages in further literacy practice and uses their new-found skills.

Table 11 Impacts of UPSKILL on average document use scores (difference-in-difference)

	Program Group			Control Group			Difference-in-Difference	
Outcome	Baseline	Follow-up	Change	Baseline	Follow-up	Change	Impact	Standard Error
Document Use								
Immediate post-training assessment (1-9 months)	227.6	240.4	12.8	229.4	231.6	2.2	**10.6** ***	(3.4)
Second post-training assessment (6-18 months)	226.4	242.8	16.4	229.0	227.2	-1.8	**18.2** ***	(5.7)
Mean scores among those with assessments								
Less than 6 months after enrolment	232.4	248.3	15.8	231.8	235.7	3.9	**11.9** **	(5.1)
6 to 12 months after enrolment	226.9	239.5	12.7	227.8	232.7	4.9	**7.8** *	(4.3)
Greater than 12 months after enrolment	222.2	238.4	16.1	227.6	220.8	-6.8	**22.9** ***	(6.6)
Sample Size			**411**			**273**	**684**	

Sources: Calculations from the Skills Snapshot assessments administered at baseline and up to twice post-program.

Notes: Sample sizes vary for individual measures due to missing values. Only those who completed both pre- and post-assessments are included. Two-tailed t-tests were applied to difference-in-difference between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Positive impacts were also observed on numeracy skills but with more modest gains. The first two rows of the top panel of Table 12 indicate that, based on the results of the first follow-up assessment test, the program group's gain from pre- to post-training was 10.1 points, significantly larger, by 7.8 points, than the control group's gain of just 2.2 points. There were no significant impacts on numeracy by the time of the second assessment.

For those with assessments earlier than 6 months after enrolment, there was a short-term positive impact on numeracy scores of about 10 points (an 11.7 point increase for the program group compared to 2 points for the control group). However, there were no statistically significant impacts on any numeracy assessments beyond 6 months.

Table 12 Impacts of UPSKILL on average numeracy scores (difference-in-difference)

	Program Group			Control Group			Difference-in-Difference	
Outcome	Baseline	Follow-up	Change	Baseline	Follow-up	Change	Impact	Standard Error
Numeracy								
Immediate post-training assessment (1-9 months)	246.1	256.2	10.1	245.4	247.6	2.2	**7.8** ***	(2.6)
Second post-training assessment (6-18 months)	239.2	247.7	8.5	232.6	238.1	5.5	**3.0**	(4.0)
Mean scores among those with assessments								
Less than 6 months after enrolment	248.7	260.4	11.7	248.8	250.8	2.0	**9.8** **	(3.8)
6 to 12 months after enrolment	244.0	253.7	9.8	241.2	247.5	6.3	**3.5**	(3.4)
Greater than 12 months after enrolment	242.0	248.1	6.1	234.7	233.9	-0.7	**6.9**	(4.6)
Sample Size			**411**			**273**	**684**	

Sources: Calculations from the Skills Snapshot assessments administered at baseline and up to twice post-program.

Notes: Sample sizes vary for individual measures due to missing values. Only those who completed both pre- and post-assessments are included. Two-tailed t-tests were applied to difference-in-difference between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Distributional impacts on document use levels

Table 13 presents impact estimates on the distribution of document use scores. The first panel indicates that, at enrolment, the program and control groups were distributed nearly identically in terms of document use scores, with the vast majority of both groups (about 80 per cent) in the upper ES Level 1 and Level 2 range. A small minority of both program and control groups were at lower Level 1 (about seven per cent) and upper Level 2 (about 13 per cent). The results in panels two through four indicate that UPSKILL training had a large positive distributional impact, shifting significantly more program group members into the higher skill levels than the control group.

The second panel shows that, among those with fairly immediate post-training assessments, at 6 months or earlier, the proportion of program group members at Level 3 was almost three times what it was in the control group (34.4 per cent versus 12.9 per cent). This represents a 21.5 percentage point impact – over a third of program group members were functioning at Level 3 post-training, compared to only about 1 in 10 who would have done so without training.

The third and fourth panels of Table 2 indicate that the impacts of UPSKILL do diminish in size somewhat among those with later follow-up assessments, but the positive gains persist. Among those with assessments at 6-12 months, there was a net decline of 5.6 percentage points in the proportion of the program group at the lowest skill level, and a net gain of similar magnitude at the top skill level. For those who were assessed later than 12 months after enrolment, the results indicate that 23.9 per cent of program group members were at Level 3 compared to only 8.8 per cent among the control group.

This represents a sustained long-term positive impact of Essential Skills training – nearly 1 in 4 program group members were functioning at Level 3 more than a year after the program, compared to less than 1 in 10 in the control group.

Table 13 Impacts of UPSKILL on the distribution of document use scores, percentage by level

Outcome	Program Group	Control Group	Impact	Standard Error
Document Use/Prose				
At Enrolment/Baseline				
Lower Level 1 (<180)	7.6	7.4	0.2	1.4
Upper Level 1 (180 to 224)	38.8	40.0	-1.2	3.4
Lower Level 2 (225-249)	18.8	17.2	1.6	2.6
Upper Level 2 (250-274)	20.9	22.3	-1.4	2.7
Level 3 (275+)	13.8	13.1	0.7	2.1
Follow-up at 6 Months or Less				
Lower Level 1 (<180)	5.4	11.0	-5.6 *	2.9
Upper Level 1 (180 to 224)	18.8	25.3	-6.4	4.9
Lower Level 2 (225-249)	20.1	21.6	-1.6	4.4
Upper Level 2 (250-274)	21.4	29.3	-7.9 **	4.0
Level 3 (275+)	34.4	12.9	21.5 ***	4.4
Follow-up at 6 to 12 Months				
Lower Level 1 (<180)	6.9	11.9	-5.0 **	2.3
Upper Level 1 (180 to 224)	24.2	29.3	-5.2	3.2
Lower Level 2 (225-249)	23.0	22.4	0.6	3.2
Upper Level 2 (250-274)	25.1	20.6	4.5	3.5
Level 3 (275+)	20.8	15.8	5.0	3.7
Follow-up greater than 12 Months				
Lower Level 1 (<180)	8.7	22.5	-13.8 **	6.7
Upper Level 1 (180 to 224)	19.9	24.5	-4.5	5.2
Lower Level 2 (225-249)	25.5	28.8	-3.3	5.3
Upper Level 2 (250-274)	22.0	15.4	6.5	4.6
Level 3 (275+)	23.9	8.8	15.1 **	7.7
Sample Size	**417**	**284**	**501**	

Sources: Calculations from Skills Snapshot assessments administered at baseline and up to twice post-program.

Notes: Sample sizes vary for individual measures due to missing values. Two-tailed t-tests were applied to difference-in-difference between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Job performance and industry certification

A key measure of overall job performance is the percentage of workers who are meeting or surpassing industry standards at a *certification* level. For the UPSKILL occupations, the certification level demands

an overall score of more than 85 per cent as well as a series of mandatory items that must be passed for a participant to be certified in their given occupation. While most of this chapter is concerned with the subcomponents of performance as they relate to Essential Skills and key business outcomes, the overall score provides a measure of the breadth of impacts on performance. Passing the performance component of industry certification is also an important achievement for participants that may provide additional opportunities or reinforce future training goals, career paths, and employment prospects.

As shown in the first row of Table 14, the percentage of program group members who surpassed or met overall performance standards at a certification level rose from 60.0 per cent at baseline to 71.2 per cent nine months after the training for a gain of 11.2 percentage points. At the same time, the proportion of control group members who surpassed or met expectations remained about the same (declining from 61.2 to 60.1 per cent). The difference represents the impact of UPSKILL training on those meeting or surpassing certification level performance standards, which was 12.3 percentage points. For the average employer, who had 15 participants enrolled in training, this translates into two additional employees able to achieve certification-level performance, where they would have failed without Essential Skills training.

Table 14 Impacts of UPSKILL on overall performance (difference-in-difference)

	Program Group			Control Group			Difference-in-Difference	
Outcome	Baseline	Follow-up	Change	Baseline	Follow-up	Change	Impact	Standard Error
Overall Performance, Certfication								
Met or surpassed industry expectations (%)	60.0	71.2	11.2	61.2	60.1	-1.1	**12.3** **	(5.2)
Surpass	24.4	34.2	9.8	19.1	27.1	8.0	**1.9**	(4.0)
Met	35.6	36.9	1.4	42.0	33.0	-9.0	**10.4** *	(5.4)
Below, but approaching	20.0	16.3	-3.7	21.8	27.1	5.3	**-9.0** *	(5.3)
Far below	20.0	12.5	-7.5	17.0	12.8	-4.3	**-3.2**	(3.8)
Sample size	**302**	**302**		**195**	**195**		**497**	

Sources: Calculations from the industry performance assessments administered at baseline and 9 months post-program.

Notes: Sample sizes vary for individual measures due to missing values. Only those who completed both pre- and post-assessments are included. Two-tailed t-tests were applied to difference-in-difference between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Impacts on employee performance, by business objective

In this section, the impacts on employee performance indicators associated with each of the five primary targeted business areas are presented. Individual performance results are accompanied by composite measures of performance in each business area where applicable.

Enhancing customer relations

Nearly all employers participating in UPSKILL identified the enhancement of customer relations as a key business objective. It is an important component of service quality and has a strong relationship

with guest satisfaction, which is a key driver of sales revenue. Three gaps in employee performance were identified by employers as being key to customer relations: effective communication, resolving customer complaints, and professionalism. The results for each of these performance indicators are presented in the first three panels of Table 15.

First, the performance indicators for effective communication are closely related to the Essential Skill of oral communication. A lack of effective communication skills was identified by employers as one of the main performance gaps that a majority of their employees possess. As staff need to routinely communicate with guests from diverse backgrounds and sometimes with limited proficiency in English (or French), having strong communication skills is crucial to ensuring guests have a pleasant stay without incident. As shown in the first panel of Table 15, UPSKILL training was successful in improving participants' ability to communicate with customers effectively and at a high standard by 13 percentage points compared to the control group, who experienced very little change (1.1 per cent).

The second aspect of employee performance relating to customer relations is in how effectively guest complaints are resolved. Effective performance in this area is closely tied to thinking skills and the ability to solve problems. While providing the customer with an experience without incident is an important element of guest relations, when incidents do occur and a complaint arises, a fast and efficient resolution to the problem will minimize its consequences and contribute to customer satisfaction (Pingitore et al., 2010). The results presented in the second panel of Table 15 indicate that UPSKILL training had a positive impact on participants' ability to effectively resolve customer complaints. While the control group experienced very little change, remaining at about 75 per cent meeting or surpassing standards, program group members experienced a 9 percentage point gain after training.

Third, professional appearance is an important standard in the hotel industry, as in many industries where frontline employees typically play an ambassador role for the organization. Professionalism in this context means compliance to a dress code and hygiene standards. From the results presented in the third panel of Table 15, the UPSKILL training had little impact in regard to professional appearance.

Finally, the three performance measures related to guest relations can be combined into a single composite variable to provide an indication of the breath of performance improvement in this area. The results presented in the final panel of Table 15 indicate that UPSKILL training had a positive impact of nearly 20 percentage points on the likelihood that program participants met or surpassed industry standards in customer relations when compared to the change observed in the control group. For an average employer, with 15 participants enrolled in training, this translates into 3 additional employees performing at high standards of customer relations, which they would otherwise have failed to achieve without training.

Table 15 UPSKILL impacts on job performance: enhancing guest relations (difference-in-difference)

	Program Group			Control Group			Difference-in-Difference	
Outcome	Baseline	Follow-up	Change	Baseline	Follow-up	Change	Impact	Standard Error
Effective Communication								
Met or surpassed industry expecations (%)	82.4	96.2	13.8	88.9	89.9	1.1	**12.7** ***	(3.7)
Surpass	67.2	82.8	15.5	67.7	76.2	8.5	**7.1**	(5.6)
Met	15.2	13.4	-1.7	21.2	13.8	-7.4	**5.7**	(4.7)
Below, but approaching	9.3	1.4	-7.9	7.9	4.8	-3.2	**-4.8**	(2.9)
Far below	8.3	2.4	-5.9	3.2	5.3	2.1	**-8.0** ***	(2.6)
	100.0	100.0	0.0	100.0	100.0	0.0		
Resolving Guest Complaints								
Met or surpassed industry expectations (%)	69.3	78.3	9.0	75.9	75.9	0.0	**9.0** *	(5.4)
Surpass	34.8	50.0	15.2	41.4	50.6	9.3	**5.9**	(6.7)
Met	34.4	28.3	-6.1	34.6	25.3	-9.3	**3.1**	(6.5)
Below, but approaching	18.9	17.6	-1.2	21.6	17.3	-4.3	**3.1**	(5.2)
Far below	11.9	4.1	-7.8	2.5	6.8	4.3	**-12.1** ***	(3.3)
	69.3	78.3	9.0	(75.9)	75.9	0.0		
Professional appearance								
Met or surpassed industry expectations (%)	96.3	96.3	0.0	97.8	95.7	-2.2	**2.2**	(2.3)
Surpass	85.1	86.5	1.4	87.1	89.2	2.2	**-0.8**	(4.6)
Met	11.2	9.8	-1.4	10.8	6.5	-4.3	**2.9**	(4.5)
Below, but approaching	2.8	3.3	0.5	0.7	3.6	2.9	**-2.4**	(2.0)
Far below	0.9	0.5	-0.5	1.4	0.7	-0.7	**0.3**	(1.5)
	96.3	96.3	0.0	(97.8)	95.7	-2.2		
Enhancing Guest Relations								
Met or surpassed expectations (%)	**76.0**	**89.3**	**13.3**	**88.0**	**82.8**	**-5.2**	**18.5** ***	**(4.3)**
Surpass	**30.7**	**44.3**	**13.7**	**31.3**	**41.7**	**10.4**	**3.3**	**(5.7)**
Met	**45.3**	**45.0**	**-0.3**	**56.8**	**41.1**	**-15.6**	**15.3** **	**(6.3)**
Below, but approaching	**21.7**	**9.3**	**-12.3**	**11.5**	**16.7**	**5.2**	**-17.5** ***	**(4.3)**
Far below	**2.3**	**1.3**	**-1.0**	**0.5**	**0.5**	**0.0**	**-1.0**	**(1.3)**
Sample size	**300**	**300**		**192**	**192**		**492**	

Sources: Calculations from the industry performance assessments administered at baseline and 9 months post-program.

Notes: Sample sizes vary for individual measures due to missing values. Only those who completed both pre- and post-assessments are included. Two-tailed t-tests were applied to difference-in-difference between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Maintaining service excellence

Maintaining service excellence is a complex but important component of performance as it ultimately impacts guest satisfaction and sales in tandem with guest relations. Service quality measures are comprised of several sets of workplace skills and occupation-specific service standards. An example of service standards for housekeeping room attendants would be to clean the bathroom according to a specific set of guidelines; for food and beverage servers, to set tables according to "house" policies established by the hotel. In the case of front desk agents, completing a check-in without error and in a timely manner is a service standard.

Maintaining service excellence requires a number of Essential Skills that vary in complexity. Among these are document use, numeracy, reading, working with others, and continuous learning. For example, service standards are typically conveyed to employees in the form of manuals and procedures, and many reporting and accountability tasks require form completion, both which necessitate document use and reading skills. Service standards often involve employees measuring specific quantities of a product, or require them to count or convert money, requiring a certain level of numeracy skills. Moreover, as service standards are constantly revised and upgraded for a hotel to maintain a competitive advantage, employees must continuously learn new things to integrate new service standards.

The results presented in Table 16 indicate that UPSKILL training did not lead to a substantial improvement in employee performance in regard to service excellence, when measured by industry expectations on the combined set of standards. The results show that, while program group participants did experience an increase of 10.1 percentage points in the proportion meeting or surpassing expectations in regard to service excellence, control group participants experienced a similar increase in this proportion, of 8.7 percentage points. This may be partly explained by the existence of in-house service quality training at most hotels.

However, on a stricter measure of performance, where the participant must successfully meet ALL items in each standard, UPSKILL training led to a 9 percentage point increase for program group members compared to the control group. This would suggest that while most employees experienced improvements in *some* service quality areas (from in-house training and/or mentoring) those receiving UPSKILL training were more likely to experience improvements in the *full* scope of service areas. This is likely due to the fact that in-house service quality training is often *targeted* towards specific service areas. In contrast, Essential Skills training produces skill gains that are *transferable* across the full range of service areas.

Table 16 UPSKILL impacts on job performance: maintaining service standards (difference-in-difference)

	Program Group			Control Group			Difference-in-Difference	
Outcome	Baseline	Follow-up	Change	Baseline	Follow-up	Change	Impact	Standard Error
Meeting service standards								
Met or surpassed ALL items in the standard (%)	37.5	43.2	5.7	36.4	33.2	-3.3	**9.0** *	(5.3)
Met or surpassed the industry expectations (%)	48.3	58.4	10.1	45.7	54.3	8.7	**1.4**	(6.1)
Surpass	4.4	4.7	0.3	2.2	0.0	-2.2	**2.5**	(1.9)
Met	43.9	53.7	9.8	43.5	54.3	10.9	**-1.1**	(6.1)
Below, but approaching	39.9	32.8	-7.1	46.7	40.8	-6.0	**-1.1**	(6.3)
Far below	11.8	8.8	-3.0	7.6	4.9	-2.7	**-0.3**	(3.1)
Sample size	**296**	**296**		**184**	**184**		**480**	

Sources: Calculations from the industry performance assessments administered at baseline and 9 months post-program.

Notes: Sample sizes vary for individual measures due to missing values. Only those who completed both pre- and post-assessments are included. Two-tailed t-tests were applied to difference-in-difference between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Productivity

In a retail service context, many of the primary indicators of productivity can be measured at the level of employee performance. Two such indicators include the extent to which tasks are performed efficiently and the effectiveness of teamwork and collaboration. **Task efficiency** can be enhanced through various means including task organization at the departmental or occupation level and through improved organizational skills of workers. The performance assessments utilized in UPSKILL measured task efficiency through a combination of employee organizational and time management skills, with less emphasis on departmental systems and procedures.

As the first panel of Table 17 indicates, UPSKILL led to nearly a 10 percentage point increase in participants surpassing industry standards for organizational skills when compared to the control group. That is, from baseline to nine months after the training, program group participants saw an increase of 5.3 percentage points in those who surpassed expectations while control group members experienced a decrease of 4 percentage points.

Table 17 UPSKILL impacts on job performance: productivity – organization and teamwork

	Program Group			Control Group			Difference-in-Difference	
Outcome	Baseline	Follow-up	Change	Baseline	Follow-up	Change	Impact	Standard Error
Organizational Behavior								
Met or surpassed industry expectations (%)	92.0	96.6	4.6	91.4	95.4	4.0	**0.5**	(3.2)
Surpass	69.2	74.5	5.3	73.6	69.5	-4.0	**9.3** *	(4.8)
Met	22.8	22.1	-0.8	17.8	25.9	8.0	**-8.8** *	(4.7)
Below, but approaching	5.3	2.7	-2.7	3.4	1.7	-1.7	**-0.9**	(2.4)
Far below	2.7	0.8	-1.9	5.2	2.9	-2.3	**0.4**	(2.3)
	92.0	96.6	4.6	91.4	95.4	4.0		
Team work								
Met or surpassed industry expectations (%)	85.7	94.3	8.6	92.9	93.5	0.6	**8.0** **	(3.7)
Surpass	74.7	89.0	14.3	85.1	87.5	2.4	**11.9** **	(4.9)
Met	11.0	5.3	-5.7	7.7	6.0	-1.8	**-3.9**	(3.7)
Below, but approaching	4.9	2.4	-2.4	5.4	4.2	-1.2	**-1.3**	(2.8)
Far below	9.4	3.3	-6.1	1.8	2.4	0.6	**-6.7** ***	(2.4)
	85.7	94.3	8.6	92.9	93.5	0.6	**8.0**	
Productivity								
Met or surpassed the combined industry expectatio	**76.5**	**81.9**	**5.5**	**81.3**	**83.9**	**2.6**	**2.9**	**(4.9)**
Surpass	**56.3**	**69.6**	**13.3**	**66.8**	**65.3**	**-1.6**	**14.9** **	**(6.0)**
Met	**20.1**	**12.3**	**-7.8**	**14.5**	**18.7**	**4.1**	**-12.0** **	**(5.0)**
Below, but approaching	**18.4**	**17.1**	**-1.4**	**16.6**	**14.5**	**-2.1**	**0.7**	**(4.6)**
Far below	**5.1**	**1.0**	**-4.1**	**2.1**	**1.6**	**-0.5**	**-3.6** *	**(1.9)**
Sample size	**293**	**293**		**193**	**193**		**486**	

Sources: Calculations from the industry performance assessments administered at baseline and 9 months post-program.

Notes: Sample sizes vary for individual measures due to missing values. Only those who completed both pre- and post-assessments are included. Two-tailed t-tests were applied to difference-in-difference between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Another important component of productivity is effective collaboration among coworkers, both within and between departments. The performance assessments utilized in UPSKILL included indicators of successful teamwork which, depending on the occupation, captured both intra- and inter-departmental collaboration among colleagues. As shown in Table 17, UPSKILL training improved various indicators of teamwork and collaboration among program group members by 8.0 percentage points when compared to the change in the control group. Most of this change resulted from a shift of program participants who were far below expectations at baseline to *surpassing* expectations after training.

Finally, the results for the productivity composite are shown in the last panel of Table 17. UPSKILL training had a positive impact on the percentage of program group members surpassing expectations by nearly 15 percentage points compared to the control group. Program group members experienced a 13.3 per cent increase while the control group experienced a decline of 4.1 percentage points. Rather than a small deterioration in productivity observed among those without training, program participants experienced significant gains in productivity. For the average firm, with 15 participants enrolled in UPSKILL, this translated into two additional employees *exceeding* high standards of productivity after having received Essential Skills training.

Increasing sales

Increasing sales revenue was identified by most participating employers as a key business outcome of interest. While sales revenue has a strong relationship with two of the previous business needs – namely customer relations and service excellence – two additional performance areas were identified as being key potential drivers of sales: the degree of product and service knowledge of staff, and the upselling ability of staff involved in sales and serving positions.

First, in regard to **product and service knowledge**, in the hospitality industry all employees must be able to effectively promote their property, its services, and local tourism. Customers will regularly seek this information from any available staff and its accurate provision is essential to the customer experience. A positive exchange increases the likelihood of both further purchases and return stays at the hotel. Moreover, the information must be accurate and current in order to be useful. Thus, maintaining product and service knowledge requires a variety of Essential Skills including reading, document use, and thinking skills to locate, understand, and communicate requested information.

As observed in the first panel of Table 18, UPSKILL training successfully improved the product and service knowledge of participants by 7 percentage points. Over the period from baseline to nine months after the training, the percentage of program group participants who surpassed or met product knowledge expectations increased from 87.6 per cent to 96.4 per cent, while the control group was stable. Moreover, UPSKILL appears to have enabled participants that were far from meeting expectations to surpass them, as it reduced those far below expectations by 5.6 percentage points.

Upselling is a requirement of most employees in sales and serving positions, and has fairly direct implications for sales revenue. It is a complex set of skills requiring the ability to assess customers' needs and desires and to suggest strategic and timely complementary products. This can include informing customers of special deals, offering higher quality products, and selling additional products and services (add-ons). Upselling is dynamic skill requiring proficiency in a mix of technical and Essential Skills including thinking skills and oral communication.

As demonstrated in the second panel of Table 18, UPSKILL training had little incremental effect on upselling ability, as improvements were observed among both program and control groups. This is likely another instance where in-house training and/or mentoring are likely already in place and contribute to ongoing performance improvement. Moreover, as upselling techniques involve a complex set of technical and Essential Skills, a larger number of hours may be required to generate significant impacts in this area, over and above that generated by technical training alone.

Finally, while improvement was observed in one of the two components that influence sales revenue, namely product and service knowledge, the third panel of Table 18 indicates that there were no statistically significant changes in the composite indicator of sales performance. As such, any increases in revenue detected at the firm-level were likely driven by increases in customer satisfaction arising from improvements in guest relations and service quality. While increases in product and service knowledge may reinforce customer satisfaction, revenue gains are unlikely to arise directly from changes in selling ability of staff.

Table 18 UPSKILL impacts on job performance: sales – property knowledge and upselling

	Program Group			Control Group			Difference-in-Difference	
Outcome	Baseline	Follow-up	Change	Baseline	Follow-up	Change	Impact	Standard Error
Property and community knowledge								
Met or surpassed industry expectations (%)	87.6	96.4	8.8	92.4	94.2	1.8	**7.0** **	(3.2)
Surpass	62.2	79.7	17.5	69.0	79.5	10.5	**7.0**	(5.8)
Met	25.5	16.7	-8.8	23.4	14.6	-8.8	**0.0**	(5.2)
Below, but approaching	6.8	2.4	-4.4	5.8	2.9	-2.9	**-1.5**	(2.9)
Far below	5.6	1.2	-4.4	1.8	2.9	1.2	**-5.6** ***	(2.1)
Upselling								
Met or surpassed industry expectations (%)	57.5	67.5	10.0	46.2	61.5	15.4	**-5.4**	(9.9)
Surpass	3.3	14.2	10.8	0.0	7.7	7.7	**3.1**	(4.4)
Met	54.2	53.3	-0.8	46.2	53.8	7.7	**-8.5**	(9.9)
Below, but approaching	25.8	19.2	-6.7	35.4	21.5	-13.8	**7.2**	(9.3)
Far below	16.7	13.3	-3.3	18.5	16.9	-1.5	**-1.8**	(7.4)
Increase sales								
Met or surpassed the combined expectations (%)	74.1	84.1	10.0	77.9	84.3	6.4	**3.6**	(4.8)
Surpass	50.2	64.9	14.7	58.7	67.4	8.7	**6.0**	(5.5)
Met	23.9	19.1	-4.8	19.2	16.9	-2.3	**-2.5**	(5.0)
Below, but approaching	19.5	14.3	-5.2	18.0	12.8	-5.2	**0.1**	(4.7)
Far below	6.4	1.6	-4.8	4.1	2.9	-1.2	**-3.6**	(2.3)
Sample size	**251**	**251**		**172**	**172**		**423**	

Sources: Calculations from the industry performance assessments administered at baseline and 9 months post-program.

Notes: Sample sizes vary for individual measures due to missing values. Only those who completed both pre- and post-assessments are included. Two-tailed t-tests were applied to difference-in-difference between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Health and safety

Health and safety was the remaining area of interest to most employers enrolled in UPSKILL for which employee performance gaps were identified. Poor health and safety can not only reduce productivity but also increase costs in terms of absenteeism, Workers Compensation premiums, as well as the human resource costs of hiring replacements. For UPSKILL, the main performance gaps identified by employers and measured in the assessments related to safe working practices. These vary by occupation but generally involved the employee's familiarity and application of practices that protect themselves from injury such as safe lifting procedures, or safe handling of chemicals to avoid contamination.

Safety and emergency preparedness, which includes fire safety procedures and security and privacy policies, was assessed separately from more regular work practices as their application is more infrequent. Health and safety information is often provided through employee information sessions and workplace procedures manuals, requiring proficiency in document use, reading, numeracy, teamwork and continuous learning.

Table 19 UPSKILL impacts on job performance: health and safety (difference-in-difference)

	Program Group			Control Group			Difference-in-Difference	
Outcome	Baseline	Follow-up	Change	Baseline	Follow-up	Change	Impact	Standard Error
Work safely								
Met or surpassed the combined industry standards (%)	65.9	77.6	11.7	69.6	77.8	8.1	**3.6**	(6.2)
Surpass	36.6	45.9	9.3	43.0	40.7	-2.2	**11.5** *	(6.6)
Met	29.3	31.7	2.4	26.7	37.0	10.4	**-7.9**	(5.8)
Below, but approaching	24.9	18.0	-6.8	23.0	21.5	-1.5	**-5.3**	(5.7)
Far below	9.3	4.4	-4.9	7.4	0.7	-6.7	**1.8**	(3.4)
Safety and Emergency								
Met or surpassed the combined industry standards (%)	58.8	60.9	2.1	59.9	55.6	-4.3	**6.5**	(5.9)
Surpass	21.5	28.3	6.9	24.1	30.9	6.8	**0.1**	(5.6)
Met	37.3	32.6	-4.7	35.8	24.7	-11.1	**6.4**	(6.6)
Below, but approaching	21.9	28.8	6.9	23.5	31.5	8.0	**-1.2**	(6.1)
Far below	19.3	10.3	-9.0	16.7	13.0	-3.7	**-5.3**	(4.4)
Health and safety								
Met or surpassed the combined industry standards (%)	62.8	73.4	10.7	65.8	68.4	2.7	**8.0**	(5.1)
Surpass	20.7	29.0	8.3	21.4	27.3	5.9	**2.4**	(4.7)
Met	42.1	44.5	2.4	44.4	41.2	-3.2	**5.6**	(5.6)
Below, but approaching	22.8	21.4	-1.4	21.4	26.2	4.8	**-6.2**	(5.2)
Far below	14.5	5.2	-9.3	12.8	5.3	-7.5	**-1.8**	(3.4)
Sample size	**187**	**187**		**290**	**290**		**477**	

Sources: Calculations from the industry performance assessments administered at baseline and 9 months post-program.

Notes: Sample sizes vary for individual measures due to missing values. Only those who completed both pre- and post-assessments are included. Two-tailed t-tests were applied to difference-in-difference between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

As shown in the first panel Table 19, UPSKILL led to significant improvements among program participants in the application of safe working practices. Program group members experienced about a 12 percentage point increase in those surpassing expectations when compared to the change observed among control group members. However, UPSKILL had little effect on employees' familiarity with safety and emergency preparedness procedures.

As shown in the third panel of Table 19, when all relevant health and safety standards are combined as a composite indicator there were no significant impacts. While program participants experienced a gain in the proportion meeting or surpassing health and safety expectations that exceeded the control group gains, this difference was not statistically significant. As such, health and safety related impacts on average business outcomes in the full sample may be more limited. The positive impacts on safe working practices may have implications for a subset of the employers where these changes were largest rather than in the full sample.

Chapter 5: Impacts on psychosocial outcomes

This chapter presents the impacts of UPSKILL on key intermediate outcomes of training including those related to psychological and social capital as well as behavioural indicators of further learning and literacy practice. As described in the research framework, these are fundamental outcomes of interest as they are not only significant contributors to well-being in their own right, but they can also mediate the effect that training has on other longer term outcomes including workplace performance, employment, and earnings.

The first section of the chapter considers the impacts of UPSKILL on psychological capital, which includes a number of attitudinal measures that can influence how learners receive and utilize training, including how actively engaged they are in learning and what they are ultimately equipped to do with it. This includes measures of change in participants' confidence in their ability to apply Essential Skills in everyday life, receptivity to continuous learning, future orientation, motivation and engagement at work, self-efficacy, and trust. The second section considers behavioural indicators including changes in learning and literacy practice in everyday life, positive workplace behaviours, and involvement in community organizations, each of which may represent the opening of new channels for skill development and social inclusion. The final section of the chapter considers impacts on the social capital of participants, as indicated by changes in size and composition of participant social networks, as well changes in social support received.

Summary of findings

- **UPSKILL led to a number of improvements in attitudes of participants that are indicative of gains in psychological capital, which can support job performance and further learning**. The improvements include increases in receptivity to continuous learning, future orientation, trust, and self-efficacy. In a composite measure of psychological capital, UPSKILL participants were significantly more likely to have experienced gains than were control group members.
- **UPSKILL also led to substantial gains in several behavioural indicators of workplace motivation and engagement, literacy practice, and broader social inclusion**. UPSKILL participants were over 20 percentage points more likely than control group members to have experienced gains in multiple indicators of positive behavioural change, including engagement in learning, literacy practice, workplace practices, and volunteering for groups and organizations.
- **UPSKILL training also produced improvements in the social capital of participants including less dense/more diverse networks, with greater use of social supports**. Positive impacts were apparent on several indicators of social capital including the breadth and diversity of supports available from networks, as well as supports received in important areas such as household help and emotional support, which can help facilitate stress-reduction and positive mental health outcomes.

Psychological capital: Attitudinal indicators

The breadth of UPSKILL impacts on psychological capital was assessed by developing a composite measure of simultaneous gain in several different indicators related to participant attitudes and beliefs about themselves. The composite measure consisted of six indicators, each of which included several questions pertaining to a specific area of psychological capital, including: i) future orientation (5 items), ii) receptivity to continuous learning (3 items), iii) motivation and engagement at work (5 items), iv) self-efficacy (10 items), v) trust (3 items), and vi) confidence in Essential Skills used in everyday life (6 items).

As illustrated in Table 20, program group members were more likely than their control group counterparts to show simultaneous improvement from baseline to follow-up in several of these six key indicators of psychological capital. Row 8 of the table shows that program group participants were 14 percentage points more likely than control group members to have gains in three or more indicators – almost half (46 per cent) of the program group had gains in three or more indicators of psychological capital, compared to less than a third (31 per cent) of the control group. Also, row 9 of the table shows that the program group was 9 percentage points more likely to experience gains in four or more areas. These results indicates that UPSKILL led to simultaneous improvement in a wide variety of indicators of psychological capital. Several examples of impacts on individual indicators are presented below.

Table 20 Impacts of UPSKILL on a composite measure of psychological capital

Outcome	Program Group	Control Group	Impact	Standard Error
Number of indicators of increasing psychological capital, out of a possible six				
Zero	8.7	8.3	0.4	2.6
One	16.9	26.0	-9.1 *	4.7
Two	28.8	34.3	-5.6	3.7
Three	24.7	18.9	5.7	4.5
Four	15.5	9.5	6.1 *	3.4
Five	4.1	2.4	1.7	2.1
Six	1.4	0.6	0.8	1.2
Three or more indicators	45.7	31.4	14.3 ***	5.1
Four or more indicators	21.0	12.4	8.6 **	3.8
Sample Size	**413**	**311**	**724**	

Sources: Calculations from the UPSKILL participant surveys at baseline and 9 months post-program.

Notes: Sample sizes vary for individual measures due to missing values. Only those who completed both pre- and post-program surveys are included. Two-tailed t-tests were applied to difference between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Receptivity to continuous learning

Indicators of receptivity to continuous learning measure the extent to which participants may be open to and interested in future learning, education, or skills upgrading. Results for two such indicators are presented below, where participants were asked to indicate the extent to which they agreed or disagreed with statements that are linked with receptivity to learning.

The results in the first panel, row 3, of Table 21 indicate that, from baseline to follow-up, the program group experienced a 5.3 percentage point increase in the proportion who agreed or strongly agreed that they are "more likely to get a better job" if they do some learning, while the control group shows a 4.2 percentage point decline over the same time period. This translates into nearly a 10 percentage point increase in learning receptivity attributable to UPSKILL.

The second panel of Table 21 presents impacts on participants' beliefs with regard to whether or not obtaining further qualifications is worth the effort. As shown in row 3 of the table, the proportion of program group members who disagreed or strongly disagreed with a statement that getting qualifications required too much effort held relatively steady from baseline to follow-up, with only a relatively slight decline of 3 percentage points. In contrast, the control group experienced a much larger 12 percentage point decline, which translates into a net 9 percentage point impact. These results suggest a significant "buffering effect" from UPSKILL, in terms of reducing the natural tendency to grow increasingly disenchanted with training observed in the control group.

Future orientation

Future orientation was assessed using 5 questions derived from the Zimbardo Time Preference Inventory (Zimbardo & Boyd, 1999). These questions asked about participants' attitudes and beliefs with regard to the importance of planning for future goals rather than focusing on immediate pleasure, as well as belief in their ability to control their own futures. The questions were selected because previous SRDC studies found that they were correlated with objective behavioural measures of delayed gratification and willingness to invest in higher education.

In general, UPSKILL had a positive impact on future orientation. The third panel (rows 1 and 2) of Table 21 indicates little change in the program group from baseline to follow-up in terms of believing that they can affect the future, while the control group grows increasingly fatalistic over the same time period, showing a large 14 percentage point drop in terms of thinking that the statement "I can't affect the future" is untrue or very untrue.

The final row of the table shows that while the mean five-item aggregate future orientation score of the control dropped by an average of 0.43 points from baseline to follow-up, it increased by an average of 0.25 points in the program groups, for a significant net impact of 0.68 points.

Table 21 Impacts of UPSKILL on psychological capital: continuous learning and future orientation

	Program Group			Control Group			Difference-in-Difference	
Outcome	**Baseline**	**Follow-up**	**Change**	**Baseline**	**Follow-up**	**Change**	**Impact**	**Standard Error**
Receptivity to Continuous Learning								
I am more likely to get a better job if I do some learning (%)								
Strongly Agree	41.0	38.3	-2.7	39.1	30.3	-8.8	**6.1**	(4.7)
Agree	36.2	44.1	8.0	42.6	47.2	4.6	**3.4**	(5.3)
Agree or Strongly Agree	77.1	82.4	5.3	81.7	77.5	-4.2	**9.5** **	(4.1)
Neutral	14.4	13.6	-0.8	13.4	16.2	2.8	**-3.6**	(3.7)
Disagree	3.7	2.9	-0.8	2.5	4.6	2.1	**-2.9**	(1.9)
Strongly Disagree	4.8	1.1	-3.7	2.5	1.8	-0.7	**-3.0** *	(1.7)
Disagree or Strongly Disagree	8.5	4.0	-4.5	4.9	6.3	1.4	**-5.9** **	(2.4)
MEAN	4.05	4.16	0.11	4.13	4.00	-0.14	**0.25** ***	(8.9)
Getting qualifications takes too much effort (%)								
Strongly Disagree	24.3	16.5	-7.8	25.9	16.2	-9.7	**1.9**	(3.8)
Disagree	27.4	32.1	4.7	32.0	29.5	-2.5	**7.3**	(4.5)
Disagree or Strongly Disagree	51.7	48.6	-3.1	57.9	45.7	-12.2	**9.2** **	(3.8)
Neutral	18.7	19.3	0.6	18.7	24.5	5.8	**-5.2**	(4.0)
Agree	20.7	23.5	2.8	18.7	19.8	1.1	**1.7**	(3.8)
Strongly Agree	8.9	8.7	-0.3	4.7	10.1	5.4	**-5.7** **	(2.7)
Agree or Strongly Agree	29.6	32.1	2.5	23.4	29.9	6.5	**-4.0**	(3.7)
MEAN (reverse scored)	3.37	3.24	-0.13	3.56	3.22	-0.34	**0.21** **	(9.1)
Future Orientation								
Since whatever will be, will be, it doesn't really matter what I do i.e. I can't affect the future (%)								
Very Untrue	24.7	25.3	0.7	31.7	24.3	-7.3	**8.0** *	(4.4)
Untrue	23.3	23.6	0.3	24.8	18.3	-6.4	**6.8**	(4.8)
Neutral	31.3	31.6	0.3	26.6	36.2	9.6	**-9.3** *	(5.5)
True	13.9	11.5	-2.4	10.6	12.4	1.8	**-4.3**	(3.8)
Very True	6.9	8.0	1.0	6.4	8.7	2.3	**-1.3**	(3.0)
True or Very True	20.8	19.4	-1.4	17.0	21.1	4.1	**-5.5**	(4.3)
MEAN (reverse scored)	3.45	3.47	0.02	3.65	3.37	-0.28	**0.30** **	(11.9)
FUTURE ORIENTATION - MEAN SCALE SCORE	15.61	15.86	0.25	16.12	15.69	-0.43	**0.68** **	(30.3)
Sample Size	**376**	**376**		**284**	**284**		**660**	

Sources: Calculations from the UPSKILL participant surveys at baseline and 9 months post-program.

Notes: Sample sizes vary for individual measures due to missing values. Only those who completed both pre- and post-program surveys are included. Two-tailed t-tests were applied to the difference-in-differences between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Self-efficacy

Self-efficacy – belief in one's own competence and ability to solve problems and attain goals – was measured using a 10-item scale. An example is shown in the first panel of Table 22, indicating the level of participants' belief that they can solve most problems if they invest the necessary effort. The fifth row of the table shows that the proportion of program group members who felt that it was "hardly" or "not at all" true that they can solve most problems fell by 3 percentage points from baseline to follow-up, while the proportion of control group members believing the same thing increased by 2 percentage points, for a net positive impact of 5.1 percentage points on this indicator of self-efficacy.

Trust

Studies have demonstrated that adult learners become more engaged in their communities and express a greater sense of "connectedness" and increased trust (Preston & Hammond, 2002; Balatti & Falk, 2002; Preston, 2004; Preston, 2004a; Westell, 2005). Trust is an important key precursor to further social engagement, as it facilitates positive interactions with one's social networks. It may also facilitate further literacy practice and engagement with additional channels for learning, thereby propagating the effects of training on skills.

The third row of the second panel of Table 22 indicates that the proportion of program group members who felt that a lost wallet was "not at all likely" to be returned if found by a total stranger drops by six percentage points from baseline to follow-up, indicating an increase in generalized trust. The control group shows an opposite trend – a four percentage point increase in the proportion of those who felt the wallet was "not at all likely" to be returned. This represents a positive net impact of nearly 10 percentage points on participants' levels of generalized trust (-9.9 percentage points).

Confidence in Essential Skills used in everyday life

In addition to impacts on objective measures of workplace Essential Skills, it was hypothesized that UPSKILL would lead to greater confidence in the use of Essential Skills **in everyday life**. Participants were asked to indicate, using a 5-point scale, the extent to which they disagreed or agreed with statements indicating confidence in various literacy-related activities such as reading, writing, and computing.

The final panel of Table 22 indicates that UPSKILL had a positive impact on confidence in reading. As shown in the seventh row of the table, the proportion of program groups members who disagreed or strongly disagreed with the statement "Reading is one of my favourite activities" fell by almost 2 percentage points from baseline to follow-up, while the proportion of control group members who disagreed or strongly disagreed that reading was a favourite activity increased by 4 percentage points over the same time period. This represents a net positive impact 6 percentage points on reading.

Table 22 Impacts of UPSKILL on psychological capital: self-efficacy, trust, and confidence in skills

	Program Group			Control Group			Difference-in-Difference	
Outcome	Baseline	Follow-up	Change	Baseline	Follow-up	Change	Impact	Standard Error
Self-Efficacy								
I can solve most problems if I invest (i.e. make) the necessary effort (%)								
Exactly True	39.0	36.8	-2.1	41.5	32.4	-9.1	**6.9**	(4.6)
Moderately True	53.1	58.0	4.9	52.2	58.9	6.7	**-1.8**	(5.1)
Hardly True	6.4	4.0	-2.5	4.7	6.3	1.6	**-4.0** *	(2.4)
Not at all True	1.5	1.2	-0.3	1.6	2.4	0.8	**-1.1**	(1.3)
Hardly or Not At All True	8.0	5.2	-2.8	6.3	8.7	2.4	**-5.1** **	(2.5)
MEAN	3.29	3.30	0.01	3.34	3.21	-0.12	**0.13** **	(5.8)
Generalized Trust								
If you lost your wallet or purse that contained $200 in it, how likely is it to be returned with the money in it if it was found by a total stranger? (%)								
Very Likely	6.0	6.7	0.6	10.0	6.8	-3.2	**3.8**	(2.8)
Somewhat Likely	36.2	41.9	5.7	39.6	39.2	-0.4	**6.1**	(4.7)
Not at all Likely	57.8	51.4	-6.3	50.4	54.0	3.6	**-9.9** **	(4.7)
MEAN	1.48	1.55	0.07	1.60	1.53	-0.07	**0.14** **	(6.1)
Confidence in Everyday Skills								
Reading is one of my favourite activities (%)								
Strongly Agree	23.6	21.9	-1.6	29.6	20.9	-8.7	**7.0** **	(3.4)
Agree	31.2	29.9	-1.4	24.2	32.1	7.9	**-9.3** **	(4.2)
Agree or Strongly Agree	54.8	51.8	-3.0	53.8	53.1	-0.7	**-2.3**	(3.4)
Neutral	27.1	31.8	4.7	30.0	26.7	-3.2	**7.9** *	(4.1)
Disagree	13.4	11.8	-1.6	11.6	14.8	3.2	**-4.9**	(3.1)
Strongly Disagree	4.7	4.7	0.0	4.7	5.4	0.7	**-0.7**	(1.9)
Disagree or Strongly Disagree	18.1	16.4	-1.6	16.2	20.2	4.0	**-5.6** *	(3.3)
MEAN	3.56	3.53	-0.03	3.62	3.48	-0.14	**0.11**	(7.6)
Sample Size	**376**	**376**		**284**	**284**		**660**	

Sources: Calculations from the UPSKILL participant surveys at baseline and 9 months post-program.

Notes: Sample sizes vary for individual measures due to missing values. Only those who completed both pre- and post-program surveys are included. Two-tailed t-tests were applied to the difference-in-differences between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Behavioural indicators of increased learning and literacy practice

The breadth of UPSKILL's impact on learning activities and literacy practice was assessed by developing a composite measure of simultaneous gains in several behavioural dimensions related to participants' engagement in post-training learning activities, workplace literacy practices, literacy practice in everyday life, and volunteering. The composite measure consisted of four indicators, each of which included questions pertaining to a specific area of behaviour: i) preparing for the future by learning new things at work or in one's personal life (1 item), ii) behaviour related to motivation and engagement at work (4 items), iii) use of Essential Skills in everyday life (7 items), and iv) volunteering for groups and organizations (1 item).

As illustrated in Table 23, program group members were more likely than their control group counterparts to show simultaneous improvement from baseline to follow-up in several of these four key behavioural indicators. Row 7 of the table shows that program group participants were a full 22 percentage points more likely than control group members to have gains in three or more indicators.

The proportion of program group members who had simultaneous gains in three or more of the four behavioural indicators was almost double that of control group members – 45 per cent vs. 23 per cent. In contrast, the second row of the table shows that the proportion of control group members who experienced improvement in only one of the four indicators (28 per cent) was more than double that of program group members (11.5 per cent). These results indicate that UPSKILL training led to simultaneous improvement in a wider variety of behavioural indicators. Several examples of impacts on individual indicators are presented below.

Table 23 Impacts of UPSKILL on composite measures of literacy-related behavioural change

Outcome	Program Group	Control Group	Impact	Standard Error
Number of increasing psychosocial behavioural indicators, out of a possible four				
Zero	5.1	9.4	-4.3	4.2
One	11.5	28.1	-16.6 ***	4.5
Two	38.2	39.6	-1.4	6.3
Three	31.8	17.3	14.6 ***	4.6
Four	13.4	5.8	7.6 *	3.9
Two or more indicators	83.4	62.6	20.8 ***	6.6
Three or more indicators	45.2	23.0	22.2 ***	5.4
Sample Size	**413**	**311**	**724**	

Sources: Calculations from the UPSKILL participant surveys at baseline and 9 months post-program.

Notes: Sample sizes vary for individual measures due to missing values. Only those who completed both pre- and post-program surveys are included. Two-tailed t-tests were applied to difference between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Engagement in learning activities

In terms of measuring impacts on continuous learning, participants were asked at follow-up if since their involvement with the project they had spent more time and effort than usual preparing for the future by learning new things at work or in their personal lives. The first panel of Table 24 shows that more than two-thirds of the program group reported experiencing at least a small increase in learning activities since they became involved in UPSKILL, compared to less than half of the control group. The first row shows that program group members were 25 percentage points less likely than the control group to have reported no increase in learning activities.

Table 24 Impacts of UPSKILL on engagement in learning activities

Outcome	Program Group	Control Group	Difference (Impact)	Standard Error
Engagement in Learning Activities				
"Have you spent more time and effort than usual preparing for the future by learning new things at work or in your personal life?"				
Not at all	31.7	56.3	**-24.6** ***	(4.7)
A little more than usual	42.6	29.0	**13.6** ***	(4.1)
More than usual	21.2	13.1	**8.1** ***	(2.8)
A lot more than usual	4.5	1.6	**2.9** **	(1.2)
Further Education and Training Taken Since Joining UPSKILL				
Taken any courses (besides UPSKILL)	16.5	7.0	**9.6** ***	(2.8)
Average number of courses taken	0.2	0.1	**0.1** ***	(0.1)
Intend to Pursue Further Education				
Intended to pursue education or training in future	66.0	59.7	**6.4**	(5.0)
Intended to pursue education or training in next 12 months	44.3	27.0	**17.2** ***	(4.6)
Industry Certification				
Received Industry Certification (% yes)	6.3	3.3	**3.0** *	(1.6)
Interested in receiving Certification in future (%yes)	51.6	42.5	**9.1** *	(4.6)
Planning next to pursue within 6-months (%yes)	32.5	20.5	**12.0** ***	(4.6)
Taken Steps towards certification (%yes)	18.7	9.4	**9.3** ***	(2.5)
Sample size	**413**	**311**	**724**	

Sources: Calculations from the UPSKILL participant surveys at baseline and 9-months post-program.

Notes: Sample sizes vary for individual measures due to missing values. Two-tailed t-tests were applied to difference between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

In terms of formal learning activities, UPSKILL led to a 10 percentage point increase in program group members pursuing further education and training. When asked if they had taken any training, besides UPSKILL training, since beginning the project, about 17 per cent of program group members reported that they were pursuing other training compared to only 7 per cent of the control group. When asked about their intentions to pursue training within the next 12 months, the impact was even larger, with 44 per cent of program group members indicating they would be pursuing training within the next year compared to only 27 per cent of control group members.

Though not part of the composite measure, participants were also asked about their intention to pursue industry certification, for which UPSKILL may have better prepared them to successfully complete. Indeed, more than half (51.6 per cent) of program group members were interested in receiving formal certification within the next 6-months compared to only 42.5 per cent of control group members. Furthermore, a third of program group members planned to pursue certification in the next six months

(32.5 per cent) compared to 20.5 per cent of control group members. Finally, nearly 1 in 5 program group members (18.7 per cent) had already taken steps to receive certification compared to less than 1 in 10 in the control group (9.4 per cent).

Behavioural indicators of motivation and engagement at work

Results for two additional indicators that measure the extent to which participants engage in productive workplace practices are presented below. While these indicators can support various aspects of job performance, they are important components of planning and time management, which reinforce learning activities and literacy practice in the workplace.

First, as indicated in the first panel, first row of Table 25, the proportion of program group members who strongly agreed that they used their time well and arranged their work area to optimize working conditions increased by 10 percentage points from baseline to follow-up, compared to a 2 percentage point drop in the control group over the same time period – for a net program impact of 12 percentage points on this indicator of time management and organization.

Second, as shown in row 2 of the second panel of Table 25, the proportion of program group members who disagreed that they sometimes reduced their chances of doing well at work increased by 10 percentage points from baseline to follow-up, compared to a small decline of 1 percentage point for the control group over the same time period. This is equivalent to a net decline of 11 percentage points in the proportion of those who behave in ways that reduce their chances of doing well in their jobs, indicating that UPSKILL had impacts on reducing counterproductive behaviour as well as increasing productive behaviour.

Use of Essential Skills in everyday life

In addition to impacts on confidence in Essential Skills (presented earlier), UPSKILL also had impacts on the frequency of Essential Skill use in everyday life. For example, as indicated in the third panel of Table 25 (row 7), the proportion of program group members who reported reading letters, notes or e-mails only once a week or less fell by 5.4 percentage points from baseline to follow-up, while rising by 1.5 percentage points in the control group, for a net positive impact of 7 percentage points on reading.

Table 25 Impacts of UPSKILL on behavioural change: engagement, literacy practice, and volunteering

	Program Group			Control Group			Difference-in-Difference	
Outcome	Baseline	Follow-up	Change	Baseline	Follow-up	Change	Impact	Standard Error
Motivation and Engagement at Work - Behavioural Measures								
In my job, I use my time well and arrange my work area so that I can work under the best conditions (%)								
Strongly agree	37.8	48.1	10.3	45.2	43.5	-1.7	**11.9** **	(5.3)
Agree	52.2	44.9	-7.4	44.8	48.1	3.3	**-10.7** *	(5.6)
Neutral	9.3	7.1	-2.2	9.2	7.1	-2.1	**-0.2**	(3.0)
Disagree	0.6	0.0	-0.6	0.8	0.8	0.0	**-0.6**	(1.0)
Strongly Disagree	0.0	0.0	0.0	0.0	0.4	0.4	**-0.4**	(0.4)
Neutral, Disagree or Strongly Disagree	9.9	7.1	-2.9	10.0	8.4	-1.7	**-1.2**	(3.1)
MEAN	4.27	4.41	0.14	4.34	4.33	-0.01	**0.15** **	(6.9)
I find I sometimes reduce my chances of doing well in my job e.g. waste time, not try hard, procrastinate (%)								
Strongly Disagree	28.1	26.7	-1.3	30.0	27.0	-3.0	**1.7**	(4.5)
Disagree	31.7	41.6	9.9	35.7	34.3	-1.3	**11.2** **	(5.5)
Neutral	24.8	19.1	-5.6	21.3	21.7	0.4	**-6.0**	(4.5)
Agree	12.2	10.6	-1.7	11.7	13.0	1.3	**-3.0**	(3.5)
Strongly Agree	3.3	2.0	-1.3	1.3	3.9	2.6	**-3.9** **	(1.8)
Agree or Strongly Agree	15.5	12.5	-3.0	13.0	17.0	3.9	**-6.9** *	(3.7)
MEAN (reverse scored)	3.69	3.81	0.12	3.81	3.67	-0.14	**0.25** **	(10.2)
Literacy Practices - Everyday Use of Literacy Skills								
How often do you read or use information from letters, notes, or e-mails (%)								
Every Day	42.7	48.4	5.7	45.0	48.0	3.0	**2.8**	(4.4)
A Few Times A Week	24.1	23.8	-0.3	27.7	23.2	-4.4	**4.1**	(4.7)
Once a Week	9.2	7.7	-1.4	5.5	11.4	5.9	**-7.3** **	(3.1)
Less Than Once a Week	7.7	8.6	0.9	8.1	4.1	-4.1	**4.9** *	(2.8)
Rarely	10.6	7.7	-2.9	9.2	9.2	0.0	**-2.9**	(2.8)
Never	5.7	3.7	-2.0	4.4	4.1	-0.4	**-1.6**	(1.7)
Once a Week or Less	33.2	27.8	-5.4	27.3	28.8	1.5	**-6.9** *	(3.7)
MEAN	4.63	4.85	0.22	4.78	4.85	0.07	**0.15**	(11.1)
How often do you write notes, letters, or e-mails (%)								
Every Day	38.1	45.0	6.9	41.3	42.0	0.8	**6.1**	(4.3)
A Few Times A Week	28.9	26.1	-2.9	30.3	27.3	-3.0	**0.2**	(4.8)
Once a Week	8.0	8.0	0.0	4.5	6.8	2.3	**-2.3**	(2.8)
Less Than Once a Week	6.0	7.7	1.7	7.2	8.0	0.8	**1.0**	(2.8)
Rarely	9.7	8.9	-0.9	10.2	10.6	0.4	**-1.2**	(2.9)
Never	9.2	4.3	-4.9	6.4	5.3	-1.1	**-3.7**	(2.3)
Once a Week or Less	33.0	28.9	-4.0	28.4	30.7	2.3	**-6.3** *	(3.7)
MEAN	4.52	4.78	0.26	4.66	4.66	0.00	**0.25** **	(11.3)
Volunteering								
Since you became involved in the UPSKILL project, how often did you participate in unpaid volunteer activities for groups or organizations (%)								
Every Day	1.3	0.0	-1.3	0.5	0.0	-0.5	**-0.8**	(0.9)
A Few Times A Week	4.3	6.0	1.7	7.1	5.1	-2.0	**3.7**	(2.7)
About Once a Week	5.1	6.4	1.3	8.6	7.1	-1.5	**2.8**	(3.2)
Once a Week or More	10.6	12.3	1.7	16.2	12.2	-4.1	**5.8**	(3.9)
About Than Once a Month	14.5	13.2	-1.3	16.2	11.7	-4.6	**3.3**	(4.6)
Less Than Once a Month	74.9	74.5	-0.4	67.5	76.1	8.6	**-9.1** *	(5.1)
MEAN	1.43	1.44	0.01	1.57	1.41	-0.16	**0.17** *	(9.8)
Sample Size	**376**	**376**		**284**	**284**		**660**	

Sources: Calculations from the UPSKILL participant surveys at baseline and 9 months post-program.

Notes: Sample sizes vary for individual measures due to missing values. Only those who completed both pre- and post-program surveys are included. Two-tailed t-tests were applied to the difference-in-differences between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Similarly, the last row of panel 4 shows there was a positive impact of 6 percentage points on writing, as the proportion of the program group who reported writing letters, notes or e-mails only once a week or less fell by 4 percentage points, while rising by 2 percentage points for the control group.

Volunteering for groups or organizations

Volunteering is an important indicator not just for communities but also for individuals, for whom skill upgrading, and improved levels of motivation, future orientation and receptivity to continuous learning could open up new channels for social inclusion and participation. Furthermore, because volunteering activities take place in an organizational setting, they may provide opportunities for further literacy practice and skill development.

Participants were asked to indicate how frequently they participated in unpaid volunteering activities for groups or organizations, using a 5-point scale ranging from less than once a month to every day. The results presented in the last panel of Table 25 indicate the proportion of program group members who were only able to participate less than once a month (row 6) remained constant from baseline to follow-up while rising by 9 percentage points in the control group over the same time period. This suggests that UPSKILL had a buffering effect on volunteering, i.e. that it helped to preserve volunteering levels among program group members during a time when they otherwise would have declined.

Social capital: Networks and social resources

The breadth of UPSKILL impacts on social capital was assessed by developing a composite measure of simultaneous gains in several different indicators related to the size and composition of participants' social networks. With respect to social network characteristics, of particular interest is their size (how many contacts one can call upon for various kinds of support), their density (how many of these contacts know each other) and their diversity (how many are from different walks of life). Individuals typically benefit from having larger, less dense, and more diverse networks as these kinds of networks can provide access to a wider range of resources, and can act as stepping stones to further skill development.

In line with these concepts, the composite measure consisted of six indicators: i) overall network size (1 item), ii) network density, i.e. proportion of contacts who knew each other (1 item), iii) proportion of contacts known from work (1 item), iv) proportion of contacts with a different occupation (1 item), v) proportion of contacts from a different community (1 item), and vi) various kinds of supports received from these contacts (4 items).

As illustrated in Table 26, gains in social capital were somewhat less common than gains in psychological capital or gains in positive behavioural indicators. The first two rows show that more than half of both program group members (54 per cent) and control group members (57.7 per cent) had gains in only one or zero of the indicators. Nevertheless, program group members were more likely than their control group counterparts to show simultaneous improvement from baseline to follow-up in several of these six key indicators of social capital. Row 9 of the table shows that program group participants were twice as likely as control group members (11.7 per cent vs. 5.8 per cent) to have gains in four or more indicators.

Table 26 Impacts of UPSKILL on a composite measure of gains in social capital

Outcome	Program Group	Control Group	Impact		Standard Error
Number of indicators of increasing social resources, out of a possible six					
Zero	25.2	27.0	-1.8		3.9
One	28.8	30.7	-1.9		4.5
Two	20.7	23.8	-3.1		3.7
Three	13.5	12.7	0.8		3.5
Four	7.2	2.6	4.6	**	2.0
Five	3.2	1.1	2.1		1.3
Six	1.4	2.1	-0.8		1.2
Three or more indicators	25.2	18.5	6.7		4.7
Four or more indicators	11.7	5.8	5.9	**	2.7
Sample Size	**413**	**311**	**724**		

Sources: Calculations from the UPSKILL participant surveys at baseline and 9 months post-program.

Notes: Sample sizes vary for individual measures due to missing values. Only those who completed both pre- and post-program surveys are included. Two-tailed t-tests were applied to the difference between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Network density and diversity

The first panel of Table 27 indicates that there was a significant reduction in network density among program groups members compared to control group members. Row 7 shows that the proportion of program groups members reporting that few or none of their contacts knew each other increased by 4 percentage points from baseline to follow-up, while falling by 3 percentage points for the control group – for a net impact of 7 percentage points. Lower network density is likely a sign of less redundancy and greater breadth of resources available through contacts.

Panel 2 (row 4) of Table 27 indicates that the proportion of program group members reporting that they knew some of their contacts from work increased by 7 percentage points from baseline to follow-up, while the proportion for the control group fell by 3 percentage points. The net 10 percentage point impact on the proportion of program group members knowing at least some contacts from work coincides with a net decrease in the proportion of those at both extremes of the distribution – i.e. both those knowing very few or no contacts from work, and those knowing all or most of their contacts from work. This "movement towards the middle" indicates that UPSKILL led some program group members to establish stronger relationships with work contacts, while others diversified their networks to include non-work contacts.

Table 27 Impacts of UPSKILL on social capital: network density, diversity, and social support

	Program Group			Control Group			Difference-in-Difference	
Outcome	Baseline	Follow-up	Change	Baseline	Follow-up	Change	Impact	Standard Error
Social Resources								
How many of the contacts on your list would you say know each other? (%)								
All	22.9	20.5	-2.4	21.1	25.6	4.5	**-6.9**	(4.7)
Most	32.5	31.5	-1.0	37.2	35.4	-1.8	**0.8**	(5.4)
All or Most	55.5	52.1	-3.4	58.3	61.0	2.7	**-6.1**	(5.3)
Some	29.8	29.5	-0.3	26.9	27.4	0.4	**-0.8**	(4.9)
Very Few	10.3	9.9	-0.3	7.6	6.7	-0.9	**0.6**	(3.3)
None	4.5	8.6	4.1	7.2	4.9	-2.2	**6.4** **	(2.6)
Very Few or None	14.7	18.5	3.8	14.8	11.7	-3.1	**6.9** *	(3.8)
How many of the contacts on your list do you know from work either now or in the past? (%)								
All	3.8	6.2	2.4	3.0	8.5	5.6	**-3.1**	(2.7)
Most	9.0	11.1	2.1	11.1	16.7	5.6	**-3.5**	(4.0)
All or Most	12.8	17.3	4.5	14.1	25.2	11.1	**-6.6**	(4.5)
Some	32.9	40.1	7.3	38.0	35.0	-3.0	**10.3** *	(5.7)
Very Few	30.4	18.7	-11.8	27.4	18.4	-9.0	**-2.8**	(5.0)
None	23.9	23.9	0.0	20.5	21.4	0.9	**-0.9**	(4.9)
Very Few or None	54.3	42.6	-11.8	47.9	39.7	-8.1	**-3.6**	(5.5)
Since you became involved in the UPSKILL project, how often have you received support from your contacts with household activities (such as child care, household maintenance, chores, personal care)?								
Very Often	6.9	6.9	0.0	6.8	3.0	-3.8	**3.8**	(2.7)
Often	18.9	12.6	-6.3	17.9	11.5	-6.4	**0.1**	(4.2)
Often or Very Often	25.8	19.5	-6.3	24.8	14.5	-10.3	**4.0**	(4.4)
Occasionally	27.7	28.3	0.6	33.3	28.6	-4.7	**5.3**	(5.3)
Rarely	23.3	23.6	0.3	19.7	24.8	5.1	**-4.8**	(5.1)
Never	23.3	28.6	5.3	22.2	32.1	9.8	**-4.5**	(4.7)
Rarely or Never	46.5	52.2	5.7	41.9	56.8	15.0	**-9.3** *	(5.5)
Since you became involved in the UPSKILL project, how often have you received emotional support (such as encouragement, reassurance, confidential advice) from your contacts? (%)								
Very Often	10.9	8.2	-2.6	12.9	6.0	-6.9	**4.3**	(3.3)
Often	28.0	19.7	-8.2	26.7	19.8	-6.9	**-1.3**	(5.1)
Often or Very Often	38.8	28.0	-10.9	39.7	25.9	-13.8	**2.9**	(5.1)
Occasionally	31.6	31.6	0.0	37.5	32.3	-5.2	**5.2**	(5.8)
Rarely	14.5	21.1	6.6	13.8	20.7	6.9	**-0.3**	(4.4)
Never	15.1	19.4	4.3	9.1	21.1	12.1	**-7.8** **	(3.9)
Rarely or Never	29.6	40.5	10.9	22.8	41.8	19.0	**-8.1**	(5.0)
Sample size	**376**	**376**		**284**	**284**		**660**	

Sources: Calculations from the UPSKILL participant surveys at baseline and 9 months post-program.

Notes: Sample sizes vary for individual measures due to missing values. Only those who completed both pre- and post-program surveys are included. Two-tailed t-tests were applied to the difference-in-differences between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Social support

Finally, the third panel (row 7) of Table 27 indicates that though the proportion of program group members who reported that they rarely or never received support with household activities increased by 6 percentage points from baseline to follow-up, it increased by much more (15 percentage points) in the control group. The net 9 percentage point impact indicates that UPSKILL had a buffering effect on social support, in that it contributed to reducing the magnitude of negative outcomes that may otherwise have occurred. Similarly, as shown in the final panel of Table 27 (row 6), the proportion of program group members reporting that they never received emotional support increased by 4 percentage points from baseline to follow-up; however, the increase was much larger (12 percentage points) among control group members. Thus, UPSKILL acted to reduce a decline in the availability of emotional supports for some, by about 8 percentage points.

Chapter 6: Impacts on employment and earnings

Over the last decade, a large volume of research has demonstrated that literacy is unequivocally associated with large differences in employment, earnings, income and reliance on income support programs. Adults with higher literacy skills earn more, experience less unemployment, and are less reliant on government transfers than those with low literacy (Osberg, 2000; Green and Riddell, 2001; Green and Riddell, 2002; Green and Riddell, 2007; Raudenbush and Kasim, 2002; and Statistics Canada and OECD, 2005).

This chapter explores the financial impacts of UPSKILL Essential Skills training. Labour market outcomes measured include rates of job retention, unemployment, hours and weeks of work, wages, the characteristics of primary and secondary jobs, and receipt of income support.

Summary of findings

- **UPSKILL training led to significantly higher rates of retention among the program group, compared to the control group.** Over 91.3 per cent of the program group continued to work with their same employer up to a year after enrolment compared to 82.9 per cent in the control group.
- **UPSKILL trainees were also less likely to have had an unemployment spell with only 2.8 per cent compared to 8.8 per cent in the control group.** Control group members were slightly more likely to be working for a different employer (6.8 per cent compared to 3.9 per cent of program participants). An equal proportion of both groups left the labour force (approximately 2 per cent) for school, retirement, or travel abroad.
- **The improved job retention and reduced unemployment of the program group were accompanied by significant positive impacts on weeks worked and annual earnings.** On average, program participants worked 3.8 weeks more per year compared to the control group (40.8 vs. 37.0) translating into nearly $1,900 more in earnings per year. However, there were no statistically significant effects on average wages or weekly hours of work. Earnings gains were driven largely by increased employment levels from the higher rates of job retention among the program group.
- **While retention is generally a positive outcome for participants and employers, there was some evidence that these jobs may be more tenuous compared to those held by the control group.** In their primary job, the program group worked slightly fewer hours per week than control group members (35.7 compared to 37.8) and were more likely to supplement this with employment in second jobs (13.3 vs. 8.9 per cent). At the same time, program group members were less likely to be pursuing self-employment than the control group in the second job (1.5 vs. 4.3 per cent).
- **While UPSKILL trainees received Employment Insurance (EI) benefits at a slightly lower rate than the control group since enrolment, they also appeared to have somewhat higher expectations of future EI receipt**. About 8 per cent of the program group expected to receive EI benefits in the next 12 months compared to 3 per cent in the control group. However, this is not entirely unexpected in that many workers in the Accommodations sector experience periods of

seasonal layoff – and many UPSKILL trainees will have increased entitlement to future EI benefits as a result of the positive impacts on job retention and their current employment levels.

Job retention and unemployment

Table 28 presents the impacts of UPSKILL on employment status, including the rate of job retention (maintaining employment with the same baseline employer), employment rates with different employers, and unemployment spells. The first row indicates that UPSKILL had a positive impact on job retention, as 91.3 per cent of the program group were working with same employer at the post-program follow-up as at baseline, which is 8.5 percentage points greater than the control group where only 82.9 per cent maintained employment with the baseline employer.

Furthermore, as exhibited in the third row, UPSKILL reduced the rate that participants find work with different employers by about 3 percentage points. It has also reduced the likelihood of experiencing an unemployment spell. Only 2.8 per cent of the program experienced a jobless spell since enrolment, compared to 8.8 per cent of the control group, which represents a reduction of 5.9 percentage points. There were no impacts on the rate that participants exited the labour force (last row of the table) with similarly low percentages in both program and control groups (under 2 per cent).

Table 28 Impacts of UPSKILL on job retention and unemployment spells, at 9-month follow-up

Outcome	Program Group	Control Group	Impact	Standard Error
Employment Status				
Working with the same Employer as baseline (%)	91.3	82.9	**8.5** **	(4.9)
No longer with the baseline Employer	8.7	17.1	**-8.5** **	(4.0)
Working with a different Employer	3.9	6.8	**-2.9** **	(1.4)
Unemployment Spell	2.8	8.8	**-5.9** **	(2.9)
Out of the Labour Force	1.9	1.6	**0.4**	(1.1)
Sample size	**665**	**503**		

Sources: Calculations from UPSKILL participant follow-up surveys and participant tracking data from UPSKILL employers.

Notes: Sample sizes vary for individual measures due to missing values. Two-tailed t-tests were applied to the difference between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Employment: weeks worked, hours, and wages

Table 29 presents the impacts of UPSKILL on various aspects of employment including weeks worked, weekly hours, and wages.

The first panel shows the impact of UPSKILL on average weeks worked per year. Program group members worked on average 40.8 weeks per year compared to 37.0 weeks for the control group, translating into a positive impact on annual earnings of $1,884. In terms of the distribution, the second and fifth rows indicate that the program group was 8.3 percentage points less likely to have worked zero weeks and 8.1 percentage points more likely to have worked 40 or more weeks per year, respectively, than the control group.

Table 29 Impacts of UPSKILL on weeks of work, hours, and wages

Outcome	Program Group	Control Group	Impact	Standard Error
All Jobs Combined				
Average weeks worked per year, all jobs	**40.8**	**37.0**	**3.8 ***	**(2.1)**
Distribution of Weeks (%)				
Not working, No weeks reported	14.9	23.2	**-8.3 ***	(4.6)
Less than 26 weeks	0.6	1.4	**-0.8**	(0.7)
26 to less than 40 weeks	2.7	1.8	**0.9**	(1.3)
40 weeks or more	81.8	73.7	**8.1 ***	(4.7)
Average hours worked per week, all jobs	**35.5**	**32.9**	**2.6**	**(2.0)**
Distribution of Hours (%)				
Not working, No hours reported	6.1	15.4	**-9.3 ****	(4.6)
Under 20 hours per week	3.4	2.7	**0.6**	(1.5)
20 to less than 30 hours per week	11.2	6.9	**4.4 ***	(2.6)
30 to less than 40 hours per week	24.1	16.7	**7.4 ****	(3.5)
More than 40 hours per week	55.2	58.3	**-3.1**	(5.2)
Average Hourly Wage, all jobs	**14.32**	**14.83**	**-0.50**	**(0.8)**
Distribution of Wages (%)				
Not working, No wage reported	9.3	24.3	**-14.9 ****	(7.0)
Minimum Wage	13.8	9.0	**4.8**	(3.2)
$0.01 to $2.99 above Min Wage	30.3	25.5	**4.9**	(5.6)
$3 to $4.99 above Min Wage	18.5	14.3	**4.2**	(4.0)
$5 or more above Min Wage	28.0	26.9	**1.1**	(7.2)
Sample size	**423**	**329**		

Sources: Calculations from UPSKILL participant follow-up surveys and participant tracking data from UPSKILL employers.

Notes: Sample sizes vary for individual measures due to missing values. Two-tailed t-tests were applied to the difference between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

At the same time, UPSKILL training had a positive impact on weekly hours worked. The second panel of the table indicates that while there were no statistically significant impacts on average hours worked (first row of the second panel of Table 29), there were impacts along the distribution. Program group members were significantly less likely, by 9.3 percentage points, to have worked zero hours than the control group (second row of panel 2), which aligns with the result from the previous table indicating that UPSKILL reduced the rate of unemployment. The program group was significantly more likely to

have worked between 20-39 hours a week – by 4.4 percentage points (third row) and by 7.4 percentage points for 30-39 hours (fourth row). These results taken together indicate that the incremental employment arising from UPSKILL training was full time and full year employment, rather than a short term transient increase in employment. However, as the third panel of Table 29 indicates, UPSKILL had no significant impacts on average hourly wages, at least within the year after enrolment. The employment impacts arising from UPSKILL were equally distributed in jobs within the wage range from minimum wage to just under $5 above minimum wage.

Further results for earnings and income are presented in Table 30. While the increase in average monthly earnings was not statistically significant (first row) there were significant impacts along the distribution, indicating that the ES training raised earnings of *some* participants. The program group had a significantly higher proportion in the monthly earnings bracket from $1,600 to $2,400 than the control group – 36.1 per cent versus 25.8 per cent, for a 10.3 percentage point gain.

Table 30 Impacts of UPSKILL on monthly earnings and Employment Insurance benefits

Outcome	Program Group	Control Group	Impact	Standard Error
Earnings				
Average pre-tax monthly earnings	$2,111	$1,953	**$158**	$220
Distribution of Earnings (%)				
Less than $1000 per month	15.2	27.2	**-12.0** *	(6.9)
$1000 to less than $1600 per month	14.3	9.6	**4.7**	(3.5)
$1600 to less than $2400 per month	36.1	25.8	**10.3** *	(5.9)
$2400 to less than $3200 per month	20.3	20.1	**0.2**	(3.9)
$3200 or more per month	14.2	17.4	**-3.2**	(5.2)
Other Income Sources				
Employment Insurance usage since baseline				
Received EI benefits (%)	4.2	7.8	**-3.6**	(2.5)
Average number of weeks on EI	1.2	2.2	**-1.0**	(0.7)
Average Total EI Benefit received				
Sample size	**423**	**329**		

Sources: Calculations from UPSKILL participant follow-up surveys.

Notes: Sample sizes vary for individual measures due to missing values. Two-tailed t-tests were applied to the difference between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Impacts on the receipt of EI benefits are presented in the second panel of Table 30. While the program group was less likely than the control group to receive EI benefits (4.2 versus 7.8 per cent) and to be on EI for somewhat fewer weeks (1.2 versus 2.1), these differences just failed to reach the level of statistical significance.

Primary versus secondary jobs: work vs. self-employment

While previous sections presented results for all jobs combined, Table 31 presents the characteristics of the primary and secondary jobs held by UPSKILL participants, for program and control groups separately. The results indicate there were no impacts of note on the characteristics of participants' primary jobs in terms of the job title, department, duties, and schedule or in terms of the biweekly salary or hourly wage. However, for the program group, the ES training led to reduced weekly hours of work in the primary job (by two hours, from 35.7 to 37.8) and to an increase in the proportion working part-time (by 6.8 percentage points, from 20.1 to 13.3 per cent). So while a higher percentage of program group members remain employed and with their baseline employer than the control group, these positions may be somewhat more tenuous than those held by control group members.

Table 31 Impacts of UPSKILL on employment: primary and secondary jobs

Outcome	Program Group	Control Group	Impact	Standard Error
Primary Job				
The baseline job is your main job (%)	94.1	91.1	**3.0**	(2.2)
There has been a change to the job (%)	22.6	23.1	**-0.5**	(3.1)
Changed job title	14.5	12.7	**1.7**	(2.6)
Changed department	9.3	9.9	**-0.6**	(2.1)
Changed work activities/duties	11.3	13.2	**-1.9**	(2.7)
Changed work schedule	10.3	10.8	**-0.5**	(2.1)
Change was not considered as an improvement	21.0	20.1	**0.9**	(2.9)
Average biweekly salary ($ before tax)	1222.4	1118.9	**103.4**	(211.3)
Average hourly wage ($ before tax)	14.2	14.7	**-0.5**	(0.8)
Average number of paid hours per week worked	35.7	37.8	**-2.0** *	(1.1)
Proportion of participants working part time (%)	20.1	13.3	**6.8** *	(3.7)
Average number of weeks per year usually worked	48.6	48.8	**-0.2**	(0.7)
Among those holding a Second job				
Worked in a second job (%)	14.9	16.0	**-1.1**	(2.9)
Worked in the second job as an employee	13.3	8.9	**4.4** *	(2.5)
The second job was self-employed	1.5	4.3	**-2.7** *	(1.5)
The second job was business owner	0.0	1.7	**-1.7** **	(0.8)
Still working in the second job	12.3	9.9	**2.3**	(2.6)
Average number of paid hours outside the main job per week	2.3	2.0	**0.2**	(0.6)
Average number of weeks outside the main job per year	4.4	3.9	**0.5**	(1.3)
Sample size	**423**	**329**		

Sources: Calculations from UPSKILL participant follow-up surveys.

Notes: Sample sizes vary for individual measures due to missing values. Two-tailed t-tests were applied to the difference between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

The second panel of Table 31 reveals that program group members were also 4.4 percentage points more likely than the control group (13.3 versus 8.9 per cent) to be working as an employee in a second

job. However, at the same time, they were also less likely to be self-employed (by 1.7 percentage points) or to be a business owner (by 1.7 percentage points) compared to the control group. UPSKILL training appears to have resulted in a small shift away from self-employment towards work in second jobs for a small number of participants.

Expectations: hours of work, wages, job loss, and EI/SA receipt

This section considers the expectations of participants over the following 12 months, concerning their hours of work, wages, chances of leaving their jobs, and their likely receipt of Employment Insurance (EI) and Social Assistance (SA). The impact estimates for these outcomes are presented in Table 32.

Table 32 Impacts of UPSKILL on employment expectations in the following 12-months

Outcome	Program Group	Control Group	Impact		Standard Error
Expect the number of hours worked in the next 12 months will (%)					
Increase	12.3	10.7	**1.6**		(2.6)
About the same	81.5	86.1	**-4.7**		(3.2)
Decrease	6.2	3.2	**3.0**		(2.0)
Expect the wages / earnings in the next 12 months to increase (%)					
Unlikely	30.6	25.7	**4.9**		(4.7)
Not Sure	38.0	35.2	**2.8**		(4.2)
Likely	31.4	39.1	**-7.7**		(6.1)
Expect likelihood of leaving the job or being laid off in the next 12 months (%)					
Unlikely	60.3	59.5	**0.8**		(4.2)
Not Sure	29.3	32.5	**-3.2**		(3.7)
Likely	10.4	8.0	**2.4**		(2.4)
Expected EI usage in the next 12 months					
Will receive EI benefits (%)	8.1	3.2	**4.9**	***	(1.7)
Expected average number of weeks on EI	1.0	0.5	**0.5**		(0.4)
Expected SA usage in the next 12 months					
Will receive SA benefits (%)	2.6	0.8	**1.8**	*	(0.9)
Sample size	**423**	**329**			

Sources: Calculations from UPSKILL participant follow-up surveys.

Notes: Sample sizes vary for individual measures due to missing values. Two-tailed t-tests were applied to the difference between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

The results in the first three panels of Table 32 indicate that UPSKILL had no statistically significant impacts on expectations in regard to hours worked, wages, and the likelihood of leaving one's job or being laid off over the next 12 months. However, the fourth and fifth panels indicate that UPSKILL appears to have increased expectations of income support receipt over the following 12 months.

Program group members were 4.9 percentage points more likely than the control group (8.1 per cent versus 3.2 per cent) to expect to receive EI benefits, and 1.8 percentage points more likely (2.6 per cent versus 0.8 per cent) to receive SA benefits. This may suggest that while UPSKILL training increased job retention and earnings for some participants, there was a degree of uncertainty about the longer term stability of these positions. At the same time, increased receipt of EI benefits is not entirely unexpected in the future in that many workers in this sector will experience a period of seasonal layoff. For those UPSKILL program group members who experienced higher rates of job retention, they will have accompanying increases in future entitlement to EI benefits, of which many may expect to avail themselves during a future seasonal layoff.

Chapter 7: Impacts on health and well-being

There is a large body of research that links education with a number of wider health and well-being benefits (Riddell, 2006; MacMahon, 2009). Participation in adult learning has been found to contribute positively towards healthy behaviours as well as improvements in health outcomes (Feinstein, Hammond, Woods, Preston, & Bynner, 2003). Lefebvre et al. (2006) reported a range of health benefits from adult learning in terms of both greater health literacy and healthier lifestyle choices as well as reductions in stress. However, little is known about the health effects of Literacy and Essential Skills (LES) training, especially when delivered in the workplace. The UPSKILL project provides the opportunity to address these questions by examining how LES training in the workplace may confer health and well-being benefits to workers and firms.

The first section of this chapter presents impact results for a number of health literacy practices. The second section considers impacts on health outcomes in terms of physical and mental health followed by reductions in workplace stress. The final section of the chapter considers impacts on absenteeism and the extent to which participants continue working while they are unwell, which has significant implications for service quality and productivity.

Summary of findings

- **UPSKILL training led to higher levels of confidence in utilizing health information**. This was accompanied by an increased willingness in program group members to ask for help along with higher levels of comfort in utilizing social supports to understand and use health information when needed.
- **While there were no impacts on overall perceived health, program group participants reported higher levels of bodily pain**. A standardized, validated measure showed increasing levels of bodily pain from baseline to follow-up among UPSKILL program participants, compared to a slight improvement among control group members over the same time period. This may relate to the increased employment levels observed among program participants and/or increased awareness of their own physical health, related to improved health literacy, and willingness to report such issues.
- **UPSKILL training led to large reductions in perceived levels of stress on the job**. Program group members were nearly 25 percentage points more likely than control group members to report stress reduction following the training.
- **While there was a significant increase in absenteeism among program group members compared to control group members, this was offset by a reduction in the incidence of working while unwell**. Although the net impact on absenteeism was an average of 0.6 more work days missed among program group members, when days missed and days worked while unwell were combined, the difference between program and control group members was no longer significant.

- **In terms of overall well-being, an indicator of life satisfaction showed a rising trend among program group members and a falling one among control group members**. Nonetheless, the difference between the two groups just failed to attain statistical significance.

Health literacy practices

Table 33 presents results for four indicators of health literacy practices. The results indicate significant positive impacts of UPSKILL on participants' ability to comprehend and utilize health information, which is often a precursor to improved health.

The first panel shows results for confidence in filling out medical forms. In the early stages of the project, managers of hotels had pointed out that some of their staff had difficulty filling out company forms, resulting in managers having to correct or complete the forms, in turn leading to productivity losses. The results in the fifth row of panel 1 of Table 33 indicate that UPSKILL training had a positive impact in this area. Program group participants were 4.5 percentage points less likely to feel "not at all confident" in filling out medical forms at follow-up than they had been at baseline, whereas control group participants were 3 percentage points more likely to feel "not at all confident" at follow-up, for a net impact of 7.5 percentage points.

UPSKILL also had a positive impact on participants' willingness to ask for help reading medical materials. The fourth row of panel 2 indicates that the proportion of program groups members who reported that they "never ask for help" dropped by 7 percentage points from baseline to follow-up, while the proportion of control group members who reported never asking for help increased by 4 percentage points, for a net impact of 11 percentage points.

The third panel also indicates a positive impact in terms of reducing participants' stress in asking for help with health information. The third row of panel 3 indicates that the proportion of program group members who said that they found it a bit stressful asking for help stayed relatively constant from baseline to follow-up, while the proportion of control group members who found it a bit stressful to ask for help doubled from 9 per cent at baseline to 18 per cent at follow-up.

Consistent with the impacts on increased willingness and reduced stress with respect to asking for help, the fourth panel indicates a reduced likelihood of acting alone when having difficulty understanding and using health information. The first row of panel 4 indicates that the proportion of program group members who said that when they had difficulty using health information they would "try to find the solution on their own" stayed constant from baseline to follow-up, while the proportion of control group members who said that they tried to find the solution on their own quadrupled from just 3 per cent at baseline to 12 per cent at follow-up.

Table 33 Impacts of UPSKILL on health literacy: confidence and practices

	Program Group			Control Group			Difference-in-Difference	
Outcome	Baseline	Follow-up	Change	Baseline	Follow-up	Change	Impact	Standard Error
Do you feel confident filling out medical forms?								
Extremely	28.8	20.8	-8.0	22.1	19.7	-2.5	**-5.6**	(4.0)
Quite a bit	32.1	32.7	0.6	34.8	32.8	-2.0	**2.7**	(5.1)
Somewhat	20.8	30.4	9.6	26.6	24.6	-2.0	**11.7** **	(4.7)
A little bit	8.0	10.3	2.2	8.6	12.3	3.7	**-1.4**	(3.5)
Not at all	10.3	5.8	-4.5	7.8	10.7	2.9	**-7.4** **	(3.2)
How often fo you need help reading medical forms?								
Always or Often	7.6	7.9	0.3	5.1	7.5	2.4	**-2.1**	(2.4)
Sometimes	18.5	24.2	5.7	23.5	21.5	-2.0	**7.8** *	(4.2)
Occasionally	20.4	21.5	1.1	24.6	20.5	-4.1	**5.2**	(4.2)
Never	53.5	46.5	-7.1	46.8	50.5	3.8	**-10.8** **	(4.3)
How stressful do you find it to rely on others for help understanding health information?								
Not at all stressful	54.1	47.2	-6.9	55.8	43.4	-12.4	**5.5**	(5.4)
Not very stressful	26.9	31.5	4.6	29.3	32.6	3.3	**1.3**	(5.3)
A bit stressful	13.1	15.4	2.3	9.1	18.2	9.1	**-6.8** *	(3.9)
Quite a bit stressful or extremely stressful	5.9	5.9	0.0	5.8	5.8	0.0	**0.0**	(2.7)
Solutions when having difficulty understanding health information?								
Try to find the information out on my own	9.0	8.7	-0.3	3.4	12.3	8.9	**-9.3** ***	(3.2)
Ask a friend, family member, or community member for advice	25.3	27.4	2.1	27.7	27.7	0.0	**2.1**	(4.6)
Ask my doctor or another health professional to clarify	57.6	56.3	-1.4	59.1	55.7	-3.4	**2.0**	(4.9)
Do nothing, or make a guess	3.5	3.8	0.3	2.6	1.7	-0.9	**1.2**	(2.0)
Other	4.5	3.8	-0.7	7.2	2.6	-4.7	**4.0**	(2.5)
Sample size	**393**	**393**		**304**	**304**		**697**	

Sources: Calculations from UPSKILL participant follow-up surveys.

Notes: Sample sizes vary for individual measures due to missing values. Only those who completed both pre- and post-program surveys are included. Two-tailed t-tests were applied to the difference-in-differences between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Physical health

For the purposes of estimating the impacts of UPSKILL on physical health, two kinds of health measures were used. In the first panel of Table 34, results are presented on an overall measure of perceived health, where participants described their health as either excellent, very good, good, or fair/poor. The results show no significant differences in the way the distribution of program and control group members experienced health changes from baseline to follow-up, which indicates that UPSKILL training had little or no impact on self-perceived physical health.

Table 34 Impacts of UPSKILL on physical health: perceived health and SF-12 scores

	Program Group			Control Group			Difference-in-Difference	
Outcome	Baseline	Follow-up	Change	Baseline	Follow-up	Change	Impact	Standard Error
"In general my health is…"								
Excellent	19.6	20.9	1.3	20.7	16.8	-3.9	**5.2**	(3.4)
Very good	39.7	29.5	-10.2	41.1	35.5	-5.6	**-4.6**	(4.7)
Good	36.1	41.0	4.8	34.5	36.8	2.3	**2.5**	(4.4)
Fair or Poor	4.6	8.7	4.1	3.6	10.9	7.2	**-3.2**	(2.3)
SF12 physical health standardized scores								
Physical Summary	52.04	50.17	-1.9	50.84	51.07	0.2	**-2.1** ***	(0.8)
Physical functioning	50.45	50.22	-0.2	50.92	50.92	0.0	**-0.2**	(0.8)
Role physical	49.94	48.60	-1.3	50.48	49.97	-0.5	**-0.8**	(0.9)
Bodily pain	49.84	46.98	-2.9	48.90	49.40	0.5	**-3.3** ***	(1.0)
General health	51.68	50.13	-1.5	52.13	49.72	-2.4	**0.9**	(0.7)
SF12 physical health - % below the norm (50)								
Physical Summary	28.4	41.6	13.2	37.5	39.4	1.9	**11.3** **	(5.3)
Physical functioning	36.8	38.8	2.0	34.3	33.9	-0.4	**2.4**	(4.4)
Role physical	38.7	48.7	10.0	37.5	45.8	8.3	**1.6**	(4.7)
Bodily pain	53.1	55.7	2.6	53.8	49.4	-4.5	**7.1**	(4.7)
General health	40.7	49.6	8.9	38.2	47.7	9.5	**-0.6**	(4.2)
Sample size	**393**	**393**		**304**	**304**		**697**	

Sources: Calculations from the UPSKILL participant baseline and follow-up Surveys.

Notes: Sample sizes vary for individual measures due to missing values. Only those who completed both pre- and post-program surveys are included. Two-tailed t-tests were applied to the difference-in-differences between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

The second and third panels of Table 34 are based on a validated measure that includes several different components of self-reported health (from the SF-12, see Gandek, B.; Ware, J.E., Jr.; Aaronson, N. K., et al. 1998). Results indicate that UPSKILL had a small negative impact on physical health. The first row of panel 2 indicates that the physical health summary scores for the program group dropped by an average of 2 points from baseline to follow-up, while increasing slightly for the control group over the same time period. The fourth row shows that the driving force for this difference is the indicator for bodily pain, which dropped (i.e., became more negative) by an average of 3 points for program group members, while improving slightly for control group members over the same time period.

The negative impact on physical health is also indicated in the first row of the third panel of Table 34, which shows that the proportion of program group members who scored below the physical summary norm of the SF-12 increased from 28.4 per cent at baseline to 41.6 per cent at follow-up, while the proportion of control group members scoring below the norm remained relatively steady over the same time period.

The apparent negative impact of UPSKILL training on participants' physical health and bodily pain may be related to the higher employment rates or longer hours of work reported in earlier chapters. However, it is also possible that the positive impacts reported in the previous section in terms of understanding and using health information may have resulted in increased program group awareness of their own physical health issues and a willingness to report on such issues.

Mental health and stress

In this section, results are presented both for the mental health counterparts to the physical health measures shown in the previous table, and for perceived level of stress at work. The results presented in Table 35 indicate that UPSKILL had little impact on mental health. The first panel of the table shows no significant differences between program and control group members in the responses to a single question on general mental health. Similarly, the first rows of panels 2 and 3 reveal no significant program-control differences in either average SF-12 mental summary scores, or in the proportion of those who fell below the mental health summary norm.

Table 35 Impacts of UPSKILL on mental health: perceived health and SF-12 scores

	Program Group			Control Group			Difference-in-Difference	
Outcome	Baseline	Follow-up	Change	Baseline	Follow-up	Change	Impact	Standard Error
"In general my mental health is..."								
Excellent	36.0	24.9	-11.1	39.1	23.8	-15.3	**4.2**	(3.8)
Very good	35.2	32.1	-3.1	31.3	35.0	3.7	**-6.9**	(4.8)
Good	24.6	34.7	10.1	25.2	32.3	7.1	**3.0**	(4.2)
Fair or Poor	4.1	8.3	4.1	4.4	8.8	4.4	**-0.3**	(2.3)
SF12 mental health standardized scores								
Mental Summary	49.90	49.85	0.0	49.69	48.86	-0.8	**0.8**	(0.9)
Vitality	55.90	53.67	-2.2	53.36	52.68	-0.7	**-1.5** *	(0.9)
Social functioning	48.57	48.26	-0.3	48.41	49.28	0.9	**-1.2**	(0.9)
Role emotional	48.70	48.49	-0.2	49.50	48.84	-0.7	**0.5**	(1.0)
Mental health	49.90	49.63	-0.3	50.41	49.62	-0.8	**0.5**	(0.9)
SF12 mental health - % below the norm (50)								
Mental Summary	45.6	46.4	0.8	45.7	46.6	1.0	**-0.2**	(5.3)
Vitality	29.6	40.2	10.6	39.5	42.7	3.2	**7.4**	(4.6)
Social functioning	50.0	48.4	-1.6	47.8	43.9	-3.9	**2.4**	(5.0)
Role emotional	39.0	38.7	-0.3	34.4	34.4	0.0	**-0.3**	(5.0)
Mental health	42.9	44.9	2.0	40.7	38.7	-2.0	**4.0**	(5.1)
Sample size	**393**	**393**		**304**	**304**		**697**	

Sources: Calculations from the UPSKILL participant baseline and follow-up surveys.

Notes: Sample sizes vary for individual measures due to missing values. Only those who completed both pre- and post-program surveys are included. Two-tailed t-tests were applied to the difference-in-differences between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

There was a small but significant negative impact on one component of mental health, namely vitality. The second row of panel 2 shows that the SF-12 vitality score for the program group dropped by an average of 2.2 points from baseline to follow-up, compared to a smaller 0.7 point drop in the control group – for a net negative impact of 1.5 points. This result indicates that program group members were less likely than control group members to say that they had a lot of energy, which is consistent with their greater likelihood of working and for longer hours. Nonetheless, the small negative impact on vitality appears more than counterbalanced by large positive impact on stress reduction in the workplace.

Stress reduction was measured directly by asking participants at the post-program follow-up interview whether they had noticed a reduction in how much stress they experienced at work since they became involved in the project. Table 36 shows that almost half of the program group reported experiencing at least a small reduction in stress at work since they became involved in UPSKILL, compared to less than a quarter of the control group. The first row shows that program group members were nearly 25 percentage points less likely than the control group to have reported no reduction in stress levels.

Table 36 Impacts of UPSKILL on stress levels in the workplace

	Program Group	Control Group	Impact	Standard Error
Perceived Stress				
Noticed a reduction in the amount of stress you experience at work:				
not at all	51.2	75.9	**-24.7** ***	3.6
very little	20.5	9.3	**11.2** ***	2.7
some	25.2	14.0	**11.3** ***	3.5
a lot	3.1	0.8	**2.2** *	1.2
Suppose not involved with UPSKILL, would stress have decreased as much:				
very unlikely	2.9	1.8	**1.1**	1.1
unlikely	12.8	1.5	**11.2** ***	2.1
not sure	27.2	17.3	**9.9** ***	3.1
likely	4.3	2.9	**1.4**	1.4
very likely	1.1	1.0	**0.2**	0.7
Sample Size	**325**	**243**	**668**	

Sources: Calculations from the UPSKILL participant baseline and follow-up surveys.

Notes: Sample sizes vary for individual measures due to missing values. Two-tailed t-tests were applied to the difference between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

The second panel of Table 36 illustrates that many program group participants also make the connection directly between their reduced stress and their involvement in the project. When asked if their stress would have decreased as much had they not been involved in UPSKILL, very few program participants reported that it is likely or very likely to have decreased as much without the training.

Absenteeism and working while unwell

Absenteeism, arising from either physical (illness or injury) or mental health-related factors (e.g. stress), was identified as a significant business priority among UPSKILL employers, as it has implications with regard to staffing costs. A related issue concerns the negative effects of physical or mental health issues while employees are working. Many employees continue to work in spite of stress or health conditions, rather than take time off, which can have negative implications for the quality of service and/or their productivity. Consistent with the small negative impacts on the experience of bodily pain but large reductions in stress levels, UPSKILL training had mixed effects on absenteeism and the incidence of working while unwell.

As shown in the first panel of Table 37, UPSKILL had significant impacts on absenteeism based on self-reports from participants (employer reports are treated in a subsequent chapter). The second row of panel 1 indicates that the proportion of program group members who missed work because of injury or pain (within the prior 4 weeks) increased by 2 percentage points from baseline to follow-up, while decreasing by 3 percentage points for the control group over the same time period.

Consistent with this result, program group members also reported being absent from work more often. As shown in the sixth row of panel 1, the number of days missed over the prior 4-week period increased by an average of 0.24 among program group members from baseline to follow-up, while decreasing by an average of 0.35 days among control group members over the same time period, for a net impact of 0.59 days.

However, as illustrated in the second and third panels of Table 37, the increase in absenteeism among program group members is offset by a reduction in the incidence of working while unwell. The sixth row of the second panel shows that the baseline-to-follow-up reduction in days worked while unwell over the prior 4-week period is on average almost one day greater for the program group than for the control group though not statistically significant.

When days missed and days worked while unwell are combined, the impact on absenteeism is no longer apparent, more than offset by reductions in days worked while unwell. As shown in row 6 of panel 3, the change from baseline-to-follow-up in the number of days either missed or worked while unwell is 4.40 days lower in the program group compared to only 3.95 lower in the control group, though the difference of 0.45 days is not statistically significant.

Table 37 Impacts of UPSKILL on absenteeism and working while unwell

	Program Group			Control Group			Difference-in-Difference	
Outcome	Baseline	Follow-up	Change	Baseline	Follow-up	Change	Impact	Standard Error
In the past 4 weeks missed work because of:								
Illness	13.2	16.5	3.3	14.7	14.7	0.0	**3.3**	(3.9)
Injury or pain	4.8	6.9	2.1	8.1	5.0	-3.2	**5.2** *	(2.9)
Stress	3.1	3.1	0.0	4.1	2.8	-1.4	**1.4**	(2.2)
Other health condition	4.1	3.8	-0.3	6.3	2.7	-3.6	**3.3**	(2.4)
Missed work for any of the above reasons	18.9	26.0	7.1	22.4	20.7	-1.7	**8.7** *	(4.5)
Number of days missed (average)	0.53	0.77	0.24	0.96	0.62	-0.35	**0.59** *	(0.3)
In the past 4 weeks worked despite:								
Illness	31.7	22.5	-9.2	32.8	25.3	-7.6	**-1.6**	(5.5)
Injury or pain	30.4	21.0	-9.3	30.9	19.9	-11.0	**1.7**	(5.1)
Stress	33.6	18.8	-14.8	36.0	21.2	-14.8	**0.0**	(5.1)
Other health condition	16.5	8.5	-8.1	16.8	11.7	-5.0	**-3.0**	(4.1)
Worked while unwell for any of the above reasons	54.4	37.2	-17.2	55.6	37.5	-18.1	**0.9**	(5.3)
Number of days worked while unwell (average)	8.67	4.36	-4.31	9.31	5.93	-3.38	**-0.92**	(1.8)
In the past 4 weeks either missed work or worked despite:								
Illness	36.7	31.1	-5.7	37.2	31.7	-5.5	**-0.2**	(5.8)
Injury or pain	31.0	23.8	-7.1	32.6	22.5	-10.2	**3.0**	(5.2)
Stress	35.5	20.0	-15.5	37.4	22.0	-15.4	**-0.1**	(5.2)
Other health condition	16.6	10.6	-6.0	20.0	12.6	-7.4	**1.5**	(4.5)
Missed work or worked while unwell for any of the above reasons	57.8	46.0	-11.8	61.4	45.5	-15.9	**4.1**	(5.5)
Number of days missed work or worked while unwell (average)	9.30	4.89	-4.40	9.66	5.70	-3.95	**-0.45**	(1.8)
Sample size	**393**	**393**		**290**	**290**		**683**	

Sources: Calculations from the UPSKILL participant baseline and follow-up surveys.

Notes: Sample sizes vary for individual measures due to missing values. Only those who completed both pre- and post-program surveys are included. Two-tailed t-tests were applied to the difference-in-differences between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Life satisfaction

Life satisfaction is commonly viewed as an important indicator of subjective well-being. Evidence from international surveys shows that cross-national differences in life satisfaction are linked not only to market outcomes (such as income), but also to non-market outcomes that tap into different personal, psychological, and social dimensions of quality of life (Helliwell, 2008). However, on a more local scale, it is still unclear whether life satisfaction is determined early and is relatively stable throughout one's adult life, or whether large-scale interventions — which could include training — can result in enduring changes in a person's subjective well-being.

As indicated in Table 38 (row 5), there was a tendency for average life satisfaction scores to increase from baseline to follow-up among program group members, while decreasing among control group members. However, the difference between groups just failed to attain statistical significance.

Table 38 Impacts of UPSKILL on life satisfaction

	Program Group			Control Group			Difference-in-Difference	
Outcome	**Baseline**	**Follow-up**	**Change**	**Baseline**	**Follow-up**	**Change**	**Impact**	**Standard Error**
Life satisfaction scale score out of 10								
Less than 5	8.9	7.0	-1.9	8.3	7.8	-0.5	**-1.4**	(3.0)
5 or 6	18.1	18.5	0.4	18.4	22.1	3.7	**-3.3**	(4.4)
7 or 8	50.7	51.5	0.7	50.2	46.5	-3.7	**4.4**	(5.5)
9 or 10	22.2	23.0	0.7	23.0	23.5	0.5	**0.3**	(4.2)
Mean score	7.20	7.32	0.12	7.26	7.13	-0.13	**0.25**	(0.2)
Sample size	**270**	**270**		**217**	**217**		**487**	

Sources: Calculations from the UPSKILL participant baseline and follow-up surveys.

Notes: Sample sizes vary for individual measures due to missing values. Only those who completed both pre- and post-program surveys are included. Two-tailed t-tests were applied to the difference-in-differences between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Chapter 8: Impacts on business outcomes

Previous chapters have illustrated that workplace Literacy and Essential Skills (LES) training produced significant improvements in participants' lives including their skills and performance on the job. But do these gains translate into an improved "bottom line" for their employers? Specifically, does LES training improve key drivers of firm *revenue* such as customer satisfaction and repeat sales? Does LES training reduce *costs* from increased productivity or reduced waste and inefficiency?

The first section of the chapter considers the impacts of UPSKILL training on several key indicators of guest satisfaction including service quality ratings, the incidence of guest complaints, and measures of customer loyalty and the likelihood of future repeat sales. The second section presents impacts of UPSKILL on the various sources of revenue including occupancy rates, food and beverage sales, and ancillary guest spending. The third section looks at the effects of UPSKILL on firm costs including impacts on error rates and efficiency of workers and their supervisors. A final section considers the effects of UPSKILL on health and safety outcomes such as injuries and absenteeism.

Summary of findings

- **UPSKILL training led to significant improvements in customer satisfaction with service quality.** Over 70 per cent of program group firms reported significant increases in satisfaction of hotel guests compared to less than 40 per cent of the control group. This translates into one in three firms that experienced gains in customer satisfaction that would not have, had they not participated in UPSKILL.
- **UPSKILL also led to significant reductions in customer complaints.** Only about one in four control group firms reported changes in guest complaints, most of which were small reductions. In contrast, over three quarters of firms in the program group reported reductions in the incidence of customer complaints after LES training for an impact of over 53 percentage points.
- **Program group firms reported larger increases in customer loyalty and in revenue compared to the control group.** Program group firms were more than 20 percentage points more likely to report an increase in customer loyalty on measures of the likelihood that guests would return to their hotel. This was accompanied by an increase in occupancy rates, with about half of program group firms experiencing an increase compared to only about a third in the control group.
- **LES training reduced error rates and increased the efficiency of workers within several departments, leading to significant cost savings for firms.** Employers reported significant reductions in wastage and errors experienced in both core job tasks as well as administrative (non-service) activities. Nearly half of program group firms reported significant reductions in error rates, compared to only one in five firms in the control group.
- **LES training increased the productivity of supervisors in several departments, reducing the time required for monitoring and work revisions for their staff.** Accompanying increased efficiency and accuracy of staff performance, are gains in productivity of supervisors. Significant increases in the confidence that supervisors have in their staff were observed among program

group firms compared to their control group counterparts. At the same time, reductions in the amount of time supervisors spend monitoring and correcting work of their staff were also reported.

Guest satisfaction: service quality, complaints, and customer loyalty

Senior managers in participating hotels were asked about changes in various indicators of guest satisfaction and customer loyalty over the prior year, including many of the critical determinants of longer-term revenue through their effects on occupancy rates and spending of guests during extended hotel stays. Table 39 presents impacts of UPSKILL on several indicators of guest satisfaction ratings (GSR) including year-over-year changes in departmental service quality ratings, the incidence of guest complaints, and measures of customer loyalty such as the likelihood that guests will recommend the hotel ("promoter scores") and the likelihood that they will return for future visits.

The first panel illustrates that UPSKILL led to significant improvements in customer satisfaction ratings. Program group firms were over 35 percentage points more likely to experience improvements in service quality ratings over the course of the follow-up than those in the control group. Over 70 per cent of program group firms reported significant increases in satisfaction of hotel guests compared to less than 40 per cent of the control group. This translates into one-in-three firms that experienced gains in customer satisfaction that would not have, had they not participated in Essential Skills training. Notably, 18 per cent of program group firms experienced large gains in guest satisfaction compared to less than 2 per cent of control group firms (estimated at more than 3 points on a year-over-year 100-point GSR scale).

The second panel illustrates that UPSKILL also produced significant reductions in the incidence of guest complaints. Most firms in the control group who did not receive LES training experienced no changes in the incidence of complaints over time. Only about one in four control group firms reported changes in guest complaints (22.3 per cent), most of which were small reductions (17.1 per cent with estimated reductions at 1to 2 per week). In contrast, over three quarters of firms in the program group (75.6 per cent) reported reductions in the incidence of customer complaints after LES training, for an impact of over 53 percentage points. In other words, one in two firms experienced significant reductions in guest complaints that would not have, had they not participated in Essential Skills training.

The third and fourth panel demonstrate that gains in customer satisfaction ratings and reductions in guest complaints were accompanied by improvements in indicators of customer loyalty. UPSKILL training led to significant gains in the likelihood that guests would both recommend the hotel and return to the hotel for future visits. In terms of promoter scores, nearly 60 per cent of program group firms reported at least some improvements in the likelihood of guests recommending their hotel (57.7 per cent) compared to only about a third in the control group (34.5 per cent) for a positive impact of 23.2 per cent.

Similarly, about 60 per cent of program group firms reported increases in customer loyalty measures in terms of the likelihood that guests would return to their hotel (60.1 per cent) compared to about a third of control group firms (36.0 per cent) for a positive impact of nearly 25 percentage points. Notably, nearly all of these gains are reported as medium-sized increases in brand loyalty measures (up to an estimated 3.65 gain on a year-over-year 100-point GSR scale).

Table 39 Impacts of UPSKILL on indicators of guest satisfaction

Outcome	Program Group	Control Group	Impact	Standard Error
Changes in Guest Satisfaction Ratings				
Ratings on Departmental Services				
Percentage of employers with				
No Changes	28.2	63.7	-35.4 ***	10.8
Small gains (>0 to 1.21)	20.8	20.4	0.3	9.2
Medium gains (>1.21 to 3.03)	33.0	14.5	18.5 *	10.7
Large gains (> 3.03)	17.9	1.4	16.6 **	7.4
Service Recovery: Guest Complaints				
Percentage of employers with				
No Changes	24.4	77.7	-53.3 ***	10.4
Small gains (1-2 fewer per week)	20.5	17.8	2.8	9.4
Medium gains (3-5 fewer per week)	36.7	3.1	33.6 ***	9.6
Large gains (> 5 fewer per week)	18.4	1.5	16.9 **	7.1
Likely to Recommend the Hotel				
Percentage of employers with				
No Changes	42.3	65.4	-23.2 **	11.4
Small gains (>0 to 1.47)	13.2	20.4	-7.2	8.2
Medium gains (>1.47 to 3.65)	31.5	9.4	22.1 **	9.7
Large gains (>3.65)	13.0	4.7	8.3	6.2
Likely to Return to the Hotel				
Percentage of employers with				
No Changes	39.9	64.0	-24.2 **	11.2
Small gains (>0 to 0.91)	8.3	15.4	-7.1	7.5
Medium gains (>0.91 to 2.28)	36.4	15.0	21.4 **	10.6
Large gains (>2.28)	15.4	5.6	9.8	6.7
Sample Size	**45**	**41**	**86**	

Sources: Calculations from the UPSKILL employer surveys and data submissions.

Notes: Sample sizes vary for individual measures due to missing values. Regression-adjustment was used to increase the precision of cross-sectional impact estimates (see Appendix A). Two-tailed t-tests were applied to the difference-in-differences between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Sources of revenue: occupancy, food and beverage sales, ancillary spending

Senior managers were also asked about changes in several key drivers of revenue since their enrolment in the project. Table 40 presents impacts of UPSKILL on several sources of revenue including year-over-year changes in occupancy rates, food and beverage sales, and ancillary spending of hotel guests.

The first panel illustrates that UPSKILL produced gains in occupancy rates with about half of program group firms experiencing an increase (50.5 per cent) compared to only about a third in the control group (35.8 per cent). Notably, about 11 per cent of program group firms reported large increases in occupancy rates while no firms in the control group reported changes of this magnitude. The mean impact of UPSKILL training on changes in the year-over-year occupancy rate was 0.66.

Table 40 Impacts of UPSKILL on sources of revenue

Outcome	Program Group	Control Group	Impact	Standard Error
Occupancy Rates				
Percentage of employers with				
No Changes	49.5	64.2	-14.7	12.0
Small gains (>0 to 1.28)	17.9	16.9	1.0	9.1
Medium gains (>1.28 to 3.19)	21.7	19.1	2.7	9.9
Large gains (>3.19)	10.9	0.0	10.9 **	5.4
Average Change: Year-over-year Occupancy Rate	1.06	0.40	0.66 **	0.28
Food and Beverage Revenue				
Percentage of employers with				
No Changes	47.0	63.8	-16.8	12.1
Small gains	20.3	21.2	-0.9	10.0
Medium gains	27.8	14.2	13.6	10.0
Large gains	4.9	0.8	4.1	4.0
Average % Change: Food and Beverage Revenue	27.3	13.8	13.4 *	7.2
Ancilliary Revenue				
Percentage of employers with				
No Changes	67.0	87.1	-20.1 *	10.9
Small gains	22.8	4.8	17.9 **	9.0
Medium gains	10.2	8.1	2.2	7.4
Large gains	0.0	0.0	0.0	
Average % Change: Ancilliary Revenue	3.3	5.8	-2.6	3.5
Sample Size	**45**	**41**	**86**	

Sources: Calculations from the UPSKILL employer surveys and data submissions.

Notes: Sample sizes vary for individual measures due to missing values. Regression-adjustment was used to increase the precision of cross-sectional impact estimates (see Appendix A). Two-tailed t-tests were applied to the difference-in-differences between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

The second and third panel shows that gains in occupancy rates were accompanied by increases in food and beverage and ancillary spending among program group firms. Just over half of the program group reported gains in food and beverage spending compared to about a third in the control group. Similarly, a third of program group firms reported gains in other ancillary spending (33.0 per cent) compared to only about 13 per cent in the control group. The average impact on food and beverage and ancillary spending among participating program group firms was just over 10 percentage points, year-over-year.

Cost savings: staff efficiency, supervisory costs, and hiring expenses

This section presents the impacts of UPSKILL training on firm costs where savings arise from staff efficiencies and reduced error rates (from increased productivity of frontline staff), lower supervisory costs (from reduced monitoring and required revisions of work), and fewer recruitment and hiring expenses (from increased job retention).

Labour costs: increased productivity, lower error rates

Senior management and departmental supervisors were asked whether they noticed changes in (a) the efficiency of frontline staff, and (b) the amount of errors made per week. Staff efficiency and error rates were assessed, separately, for core job tasks and general administrative activities. Given that productivity gains might have varied significantly by occupation, departments were assessed separately on each of the above domains.

Housekeeping

Table 41 presents the impacts of UPSKILL on participants' efficiency and error rates in the housekeeping department. The first and second panels of the table present impacts on efficiency and error rates in core job tasks of housekeepers including shift preparation, cleaning guest rooms, and restocking inventories.

Results indicate that UPSKILL training produced significant gains in task efficiency for housekeepers in some program group firms. While the estimated average time saved per shift was not statistically different in program and control groups for housekeepers, a higher percentage of program group firms reported large savings in time to complete core job tasks (13.1 per cent) compared to the control group (1.0 percent). This was accompanied by significant reductions in error rates in completing core job tasks. About a quarter of program group firms (24.3 per cent) had housekeepers experiencing 3 to 5 fewer errors per week compared to only 8.0 per cent in the control group.

The third and fourth panels present impacts on efficiency and errors in general administration including document completion, incident reporting, and other human resource activities. Results indicate that in addition to productivity gains in core job tasks, UPSKILL training produced significant improvements in efficiency and accuracy of general administrative activities of housekeepers. About a quarter of program group firms had housekeepers that experienced time savings of between 30 and 60 minutes a week on administrative activities (25.1 per cent) including incident and HR reporting, compared to only 7.0 per cent in the control group reporting the same magnitude of change. A similar percentage of program group firms had housekeepers experiencing 3to 5 fewer errors per week in general administrative activities compared to very few in the control group (1.9 per cent).

Table 41 Impacts of UPSKILL on staff efficiency and error rates: housekeeping

Outcome	Program Group	Control Group	Impact	Standard Error
Housekeeping/Custodial				
Efficiency with core Job Tasks				
Average Time Saved: Minutes per Shift	16.9	9.1	7.8	5.6
Percentage of employers with				
No Changes	60.9	71.7	-10.9	11.8
Small savings (less than 30 minutes)	6.5	5.9	0.6	5.8
Medium savings (30 to 60 minutes)	19.5	21.3	-1.8	9.6
Large savings (More than 60 minutes)	13.1	1.0	12.1 *	6.5
Error rates: mistakes in core job tasks				
Average change in errors/week	-1.3	-0.4	-0.9 **	0.4
Percentage of employers with				
No Changes	59.1	77.6	-18.5	11.4
Small decrease (1-2 fewer errors/week)	4.1	9.1	-5.0	5.8
Medium decrease (3-5 fewer errors/week)	24.3	8.0	16.3 *	8.9
Large decrease (More than 5 fewer errors/week)	12.5	5.3	7.2	7.0
Efficiency in general administration				
Average Time Saved: Hours per week	1.1	0.5	0.6 *	0.3
Percentage of employers with				
No Changes	55.7	71.3	-15.6	11.9
Small savings (less than 30 minutes)	6.2	13.4	-7.2	7.1
Medium savings (30 to 60 minutes)	25.1	7.0	18.1 **	9.0
Large savings (More than 60 minutes)	13.0	8.3	4.6	7.6
Errors in general administration				
Average change in errors/week	-1.1	-0.3	-0.8 **	0.4
Percentage of employers with				
Small increase (1-2 more errors/week)	0.2	3.5	-3.3	3.0
No Changes	64.4	77.0	-12.6	11.3
Small decrease (1-2 fewer errors/week)	4.0	16.9	-12.9 *	6.9
Medium decrease (3-5 fewer errors/week)	23.6	1.9	21.7 ***	8.0
Large decrease (More than 5 fewer errors/week)	7.8	0.7	7.1	5.3
Sample Size	**45**	**41**	**86**	

Sources: Calculations from the UPSKILL employer surveys and data submissions.

Notes: Sample sizes vary for individual measures due to missing values. Regression-adjustment was used to increase the precision of cross-sectional impact estimates (see Appendix A). Two-tailed t-tests were applied to the difference-in-differences between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Guest services/front desk

Table 42 presents the impacts of UPSKILL on participants' efficiency and error rates in guest services/front desk. The first and second panels of the table present impacts on efficiency and error rates in core job tasks of front desk agents including reservations, check-ins, check-outs, and processing payments and special requests.

Results indicate that UPSKILL training produced significant gains in task efficiency of front desk agents in program group firms. About a third of program group firms (33.1 per cent) experienced significant savings of between 30 and 60 minutes per shift for core tasks of front desk agents, compared to only about 4 per cent of control group firms experiencing this magnitude of change. The average impact on time saved in core job tasks of front desk agents was just over 20 minutes per shift. This was accompanied by significant reductions in error rates in completing core job tasks. Just under half of program group firms (46.7 per cent) experienced some reduction in errors among front desk agents compared to only about one in five in the control group (21.1 per cent).

The third and fourth panels present impacts on efficiency and errors in general administration of front desk agents including document completion, reporting, and other human resource activities. About 40 per cent of program group firms had front desk agents that experienced efficiency gains (41.2 per cent) and fewer errors in administrative activities (41.3 per cent), significantly higher than those firms in the control group where only about one in five reported gains in efficiency (22.1 per cent) and reduction in administrative errors (21.2 per cent).

Food and beverage services

Table 43 presents the impacts of UPSKILL on participants' efficiency and error rates in food and beverage services. The first and second panels of the table present impacts in core job tasks of food and beverage servers including preparing tables, seating guests, taking orders, delivering meals, and processing payments.

Results indicate that UPSKILL training produced significant gains in task efficiency of food and beverage servers in program group firms. About one in five program group firms (19.0 per cent) experienced significant savings of between 30 and 60 minutes per shift for core tasks of front desk agents compared to only about four per cent of control group firms experiencing this magnitude of change. The average impact on time saved in core job tasks of food and beverage servers was nearly 15 minutes per shift. This was accompanied by large reductions in error rates in completing core job tasks among a minority of program group firms (10.3 per cent) compared to the control group (1.1 per cent).

Few significant impacts on efficiency and errors in general administration were observed among food and beverage departments.

Table 42 Impacts of UPSKILL on staff efficiency and error rates: guest services

Outcome	Program Group	Control Group	Impact	Standard Error
Changes in Productivity: Front Desk				
Efficiency with core Job Tasks				
Average Time Saved: Minutes per Shift	23.5	2.7	20.8 ***	5.6
Percentage of employers with				
No Changes	50.3	78.2	-27.8 **	11.2
Small savings (less than 30 minutes)	11.4	17.4	-6.0	8.0
Medium savings (30 to 60 minutes)	33.1	3.9	29.2 ***	9.2
Large savings (More than 60 minutes)	5.2	0.5	4.7	4.2
Errors in core Job Tasks				
Average change in errors/week	-0.7	-0.1	-0.6 ***	0.2
Percentage of employers with				
Small increase (1-2 more errors/week)	-0.1	3.7	-3.8	3.0
No Changes	55.3	78.9	-23.7 **	11.4
Small decrease (1-2 fewer errors/week)	14.2	10.4	3.8	8.2
Medium decrease (3-5 fewer errors/week)	28.4	6.3	22.1 **	9.5
Large decrease (More than 5 fewer errors/week)	2.3	0.7	1.6	2.9
Efficiency in general administration				
Average Time Saved: Hours per week	0.8	0.1	0.7 ***	0.2
Percentage of employers with				
No Changes	58.8	77.9	-19.1 *	11.2
Small savings (less than 30 minutes)	10.9	11.0	-0.1	7.9
Medium savings (30 to 60 minutes)	25.1	10.6	14.5	9.6
Large savings (More than 60 minutes)	5.2	0.5	4.6	4.2
Errors in general administration				
Average change in errors/week	-0.7	-0.1	-0.7 ***	0.2
Percentage of employers with				
Small increase (1-2 more errors/week)	-0.1	3.7	-3.8	3.1
No Changes	58.7	78.8	-20.1 *	11.4
Small decrease (1-2 fewer errors/week)	5.6	7.5	-1.9	6.3
Medium decrease (3-5 fewer errors/week)	30.5	9.4	21.1 **	10.1
Large decrease (More than 5 fewer errors/week)	5.4	0.6	4.8	4.4
Sample Size	**45**	**41**	**86**	

Sources: Calculations from the UPSKILL employer surveys and data submissions.

Notes: Sample sizes vary for individual measures due to missing values. Regression-adjustment was used to increase the precision of cross-sectional impact estimates (see Appendix A). Two-tailed t-tests were applied to the difference-in-differences between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Table 43 Impacts of UPSKILL on staff efficiency and error rates: food and beverage

Outcome	Program Group	Control Group	Impact	Standard Error
Changes in Productivity: Food and Beverage				
Efficiency with core Job Tasks				
Average Time Saved: Minutes per Shift	15.5	0.8	14.7 **	6.1
Percentage of employers with				
No Changes	70.2	87.9	-17.7 *	9.4
Small savings (less than 30 minutes)	5.8	7.1	-1.3	5.2
Medium savings (30 to 60 minutes)	19.0	4.4	14.6 *	7.7
Large savings (More than 60 minutes)	5.0	0.7	4.4	4.0
Errors in core Job Tasks				
Average change in errors/week	-0.7	-0.3	-0.4	0.4
Percentage of employers with				
No Changes	79.2	83.4	-4.2	9.3
Small decrease (1-2 fewer errors/week)	0.2	7.2	-7.0 *	3.8
Medium decrease (3-5 fewer errors/week)	10.4	8.3	2.1	7.0
Large decrease (More than 5 fewer errors/week)	10.3	1.1	9.1 *	5.5
Efficiency with general administration				
Average Time Saved: Hours per week	0.5	0.1	0.3	0.2
Percentage of employers with				
No Changes	76.6	85.0	-8.4	9.4
Small savings (less than 30 minutes)	3.4	6.9	-3.5	4.9
Medium savings (30 to 60 minutes)	11.8	7.4	4.4	6.9
Large savings (More than 60 minutes)	8.2	0.7	7.5	5.2
Errors in general administration				
Average change in errors/week	-0.6	0.0	-0.6 *	0.3
Percentage of employers with				
No Changes	75.2	90.7	-15.5 *	8.9
Small decrease (1-2 fewer errors/week)	8.5	4.2	4.3	6.0
Medium decrease (3-5 fewer errors/week)	11.2	4.3	6.8	6.3
Large decrease (More than 5 fewer errors/week)	5.1	0.8	4.3	4.2
Sample Size	**45**	**41**	**86**	

Sources: Calculations from the UPSKILL employer surveys and data submissions.

Notes: Sample sizes vary for individual measures due to missing values. Regression-adjustment was used to increase the precision of cross-sectional impact estimates (see Appendix A). Two-tailed t-tests were applied to the difference-in-differences between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Supervisory costs

Employer surveys also included modules to assess the effects of UPSKILL on the productivity of departmental supervisors, as performance gains and reductions in errors of frontline staff may have consequences for how supervisors spend their time. Table 44 presents the impacts of UPSKILL on supervisors time use in terms of requirements for monitoring and correcting the work of their frontline staff. Impacts are presented separately for each department.

Table 44 Impacts of UPSKILL on supervisory efficiency

Outcome	Program Group	Control Group	Impact	Standard Error
Changes in Productivity: Supervisor Efficiency				
Housekeeping: Time spent overseeing the work of staff				
Average Change: Hours per week	3.5	2.0	1.5	1.2
Percentage of employers with				
No Changes	56.3	75.6	-19.3 *	10.5
Small savings (less than 30 minutes)	16.4	10.5	5.8	6.9
Medium savings (30 to 60 minutes)	17.8	8.7	9.1	8.1
Large savings (More than 60 minutes)	9.6	5.2	4.3	6.2
Front Desk: Time spent overseeing the work of staff				
Average Change: Hours per week	4.2	0.7	3.5 ***	1.1
Percentage of employers with				
No Changes	50.1	80.3	-30.2 ***	10.4
Small savings (less than 30 minutes)	16.8	6.4	10.5	8.0
Medium savings (30 to 60 minutes)	15.5	8.1	7.3	7.9
Large savings (More than 60 minutes)	17.7	5.2	12.4 *	7.1
Food and Beverage: Time spent overseeing the work of staff				
Average Change: Hours per week	1.7	0.1	1.6 *	0.8
Percentage of employers with				
No Changes	75.9	85.4	-9.4	9.5
Small savings (less than 30 minutes)	8.5	6.6	1.9	6.6
Medium savings (30 to 60 minutes)	10.3	7.8	2.5	6.6
Large savings (More than 60 minutes)	5.2	0.2	5.0	4.0
Sample Size	**45**	**41**	**86**	

Sources: Calculations from the UPSKILL employer surveys and data submissions.

Notes: Sample sizes vary for individual measures due to missing values. Regression-adjustment was used to increase the precision of cross-sectional impact estimates (see Appendix A). Two-tailed t-tests were applied to the difference-in-differences between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Panel 1 illustrates impacts on supervisors in housekeeping. While differences in the average time spent overseeing the work of housekeepers were not statistically different in program and control groups, there is a significant positive distributional shift. Program group firms were nearly 20 percentage points more likely to report significant reductions in time spent monitoring the work of housekeepers (19.3 percentage point impact). Panel 2 shows that the impacts of UPSKILL on supervisors in guest services were even larger. There is a significant difference in average time spent monitoring work of frontline staff of approximately 3.5 hours per week between program and control groups. Furthermore, half of program group firms reported significant time savings (49.9 per cent) compared to less than one in five in the control group (19.7 per cent), for an impact of over 30 percentage points. Panel 3 shows that impacts on time use of supervisors in food and beverage services were somewhat more modest at an average of 1.6 hours saved per week, and less prevalent, with fewer than one in four reporting changes (24.1 per cent).

Human Resources: job satisfaction, receptivity to learning, retention

Senior managers were also asked about their views on staff morale and job satisfaction, the receptivity of staff to new challenges and their desire for further training and certification in the industry – and ultimately whether they thought the likelihood of staff staying with the firm had changed.

The first 3 panels of Table 45 illustrate that a fairly consistent percentage of program group firms reported positive changes in staff morale, receptivity to new challenges, and a desire for further training and certification. While over two thirds of control group firms reported no changes in these areas (from 65.8 per cent to 68.2 per cent) only about 40 per cent of program group firms reported no change (from 40.3 per cent to 42.1 per cent). This represents about a 25 percentage point impact of UPSKILL training on the likelihood of positive changes in staff morale and receptivity to new challenges and further training.

The final panel of Table 45 also illustrates that UPSKILL had a positive impact on employer's views of the stability of their work force in terms of the likelihood of job retention. Over half of program group firms reported changes in the likelihood of job retention (55.0 per cent) compared to less one in three in the control group (28.3 per cent). While the majority of these changes were reported as "a little" or "somewhat" better, a significant percentage of program group firms reported large improvements in the likelihood of retention, with over 10 per cent indicating the likelihood of retention was now "a lot" better after training (10.6 per cent) compared to very few firms in the control group (0.3 per cent). This impact closely mirrors the actual effect of UPSKILL on job retention of 8.5 percentage points, as presented in Chapter 7.

Table 45 Job satisfaction, receptivity to learning, and likelihood of retention

Outcome	Program Group	Control Group	Impact	Standard Error
Job Satisfaction, Staff Morale				
Percentage of employers reporting				
No changes	40.5	67.9	-27.4 **	11.5
A little better	26.3	18.8	7.5	9.5
Somewhat better	23.2	8.7	14.5	8.8
A lot better	10.0	4.6	5.5	6.2
Receptivity to New Challenges				
Percentage of employers reporting				
No changes	42.1	65.8	-23.8 **	11.9
A little better	17.2	16.5	0.7	8.9
Somewhat better	30.2	13.6	16.6 *	9.9
A lot better	10.5	4.0	6.5	5.6
Desire for further Training, Certification				
Percentage of employers reporting				
A little worse	3.1	-0.5	3.6	2.7
No change	40.3	68.2	-27.9 **	12.0
A little better	18.3	15.1	3.2	9.4
Somewhat better	28.5	16.0	12.5	10.2
A lot better	9.9	1.2	8.6	5.5
Likelihood of staying with the Firm				
Percentage of employers reporting				
Somewhat worse	-0.2	4.0	-4.2	3.0
A little worse	3.0	-0.4	3.3	3.0
No changes	45.0	71.7	-26.7 **	11.8
A little better	23.7	12.0	11.7	9.2
Somewhat better	18.0	12.4	5.6	9.2
A lot better	10.6	0.3	10.2 *	5.5
Sample Size	**45**	**41**	**86**	

Sources: Calculations from the UPSKILL employer surveys and data submissions.

Notes: Sample sizes vary for individual measures due to missing values. Regression-adjustment was used to increase the precision of cross-sectional impact estimates (see Appendix A). Two-tailed t-tests were applied to the difference-in-differences between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Chapter 9: Return on investment: a cost-benefit analysis

UPSKILL results have shown that workplace Literacy and Essential Skills (LES) training can produce a wide range of positive impacts on workers and firms including skills gains, improved job performance, and enhanced business outcomes. But what is the monetary value of these impacts and does it justify the costs incurred? This chapter addresses this fundamental issue of return on investment (ROI) through a comprehensive cost-benefit analysis, which answers specific questions about the program costs, the monetary value of benefits, and the returns:

- What were the full program costs of implementing UPSKILL and providing release time for workers engaged in training?
- What was the monetary value of the benefits that UPSKILL produced?
- When all benefits and costs are combined, what was the return on training investment?
- How were returns different for workers, firms, and government, who each bore part of the costs?

The first section of the chapter describes the methodology and accounting framework for the cost-benefit analysis, which illustrates each of the key components that were captured. The second section presents the full costs of implementing the UPSKILL program and provides a breakdown of key components such as the sector needs analysis, curriculum design, firm and worker assessments, and training delivery. The third section presents the full benefits and costs of UPSKILL and calculates the return on investment for each of the stakeholders including participants, firms, and government. The fourth section presents several additional cost-sharing scenarios where governments subsidize training at different rates, which has implications for the return on investment for firms and government. A final section presents an extension to the standard cost-benefit analysis by incorporating some of the key intangible benefits of Essential Skills training.

Summary of findings

- **UPSKILL program delivery costs were about $2,250 per participant.** This included practitioner fees and ancillary costs for recruitment, needs assessments, curriculum customization, and training delivery. Costs to release participants from work to engage in LES training activities were an additional $288 per participant.
- **Participants experienced a substantial positive return on investment from LES training, as they incurred very little cost under this model.** UPSKILL participants received just over $1,400 in earnings gains. The primary costs were indirect, arising from income taxes and foregone EI benefits in the amount of $558. This resulted in a substantial return on investment after only a small investment of personal time in training.
- **Firms experienced a significant positive ROI from LES training, even when assumed to bear the full costs of delivery.** Increased revenue and higher productivity more than offset the costs of the program. In terms of benefits, firms experienced gains in revenue, cost savings from increased productivity, and reductions in hiring costs that amounted to nearly $4,600 per participant. In terms of costs, firms paid the increased earnings to participants along with increased corporate

taxes. Even when firms are assumed to bear full costs of training ($2247) and release time ($288), their net benefit is $577, per participant, for an average return on investment of 23 per cent.

- **Assuming they cover only the costs of program launch for sector-level activities, governments also experience a positive ROI under this LES training model.** Governments experienced gains in terms of increased income, corporate, and sales tax revenue, as well as a small reduction in transfers (EI benefits). These gains more than offset the costs of sector-level activities to support the launch of workplace LES training including engagement, sector needs analysis, and design of the core curricula.
- **LES training produced a large net benefit and overall positive ROI when considering all outcomes of stakeholders combined.** The combined benefits of LES training for all stakeholders was $4,973, per participant, through the first year. This more than offsets the full costs of the program including all sector-level components and firm-level delivery costs, which amounted to $2,889 per participant, for a net benefit of $2,084 and an overall return on investment of 72 per cent.
- **The ROI of LES training for firms would be significantly higher under cost-sharing arrangements with government, such as that proposed under the Canada Job Grant.** The ROI from LES training under a 1/3 matching grant would be over 160 per cent for the average firm participating in UPSKILL, more than seven times the benchmark scenario of 23 per cent return on investment. However, governments are in this case are clearly making an investment to encourage employers to train and generate these returns, with a net cost to government of $445 per participant.
- **The implicit value of UPSKILL's impacts on psychosocial outcomes are estimated to be twice as large as the direct financial benefits to participants.** Incorporating these impacts into the broader cost benefit analysis would increase the overall combined net benefit by about 80 percent.

Methodology, data sources, and accounting framework

Methodology

The methodology used for the cost-benefit analysis of UPSKILL was similar to that adopted for other demonstration projects based on random assignment designs (see the Self-Sufficiency Project in Ford, Gyarmati, Foley, and Tattrie, 2003; and the Community Employment Innovation Project in Gyarmati, de Raaf, Palameta, Nicholson, and Hui, 2008). The basic analytic approach is to estimate the monetary value of UPSKILL's impacts, both positive (benefits) and negative (costs), through either direct measurement or estimation. The power of this approach stems from UPSKILL's random assignment design: all of the estimated impacts represent *incremental* net benefits and costs of UPSKILL as they were calculated from differences between the program and control groups. These incremental effects of the program were then combined with direct costs of program expenditures to allow for the calculation of return on investment.

All benefits and costs were presented in comparable terms on a *per participant* basis, over the year after enrolment in the project. The final follow-up surveys were generally administered to participants

in month 9 after their enrolment and to employers in month 12. However, the timing of the interviews varied somewhat by firm based on the length of the training program and the availability of participants and employers. For the purposes of the ROI study, a *standardized 12-month follow-up* period was used for benefit-cost calculations.[11] Estimates are expressed in constant *2012 dollars* using a 5-per-cent annual social discount rate.[12] Benefits and costs were only included in the analysis when the underlying impacts were statistically significant.

Data sources

Design, implementation and operational costs of UPSKILL were measured using delivery partner contracts, expense claims, and program delivery data from UPSKILL's participant management information system (PMIS). UPSKILL's effects on participants including employment, earnings, and EI receipt were measured using data from participant surveys at baseline and follow-up. Effects on firms including revenues and costs were measured with employer surveys at baseline and follow-up along with supporting data submissions and industry statistics. UPSKILL's effects on personal, corporate, and sales taxes were imputed based on 2012 federal and provincial rates.

Accounting framework

The net benefits and costs of UPSKILL are presented from four perspectives: participants, firms, government, and the total for all stakeholders combined. Table 46 illustrates the expected effects of UPSKILL on each of these four perspectives. The expected effects are shown as a benefit (+), cost (-) or neither (blank). Uncertain outcomes are shown as (+/-).

[11] This implicitly involves a small "projection period" for those participants and firms interviewed before month 12 and a "cut-off" for those interviewed afterward. A constant projection method was used where the monthly benefit or cost was applied at the same rate to a maximum of 9 months (the average length of time between the end of the intervention and the 12-month follow-up). Importantly, program and control group firms were randomly assigned in matched pairs and were interviewed at approximately the same month at follow-up and therefore not affected differentially by this adjustment.

[12] Effects of inflation and discounting can be largely ignored given the short length of the program and only a 12-month follow-up period. While training was implemented from 2011 to 2013, the majority of benefits and costs for workers and firms were accrued and calculated in 2012 dollars. However, some of the initial start-up costs for sector engagement and curriculum design were compounded as they were incurred in 2010 and 2011.

Table 46 UPSKILL cost-benefit analysis: accounting framework

	Perspective			
	Participants	**Firms**	**Government**	**Total**
Financial Components (Fully-monetized)				
Participant Impacts				
Employment and Earnings	+	-		+
Transfer payments: EI, welfare	-		+	
Tax payments	-		+	
Firm Effects				
Sales Revenue: Occupancy rates, Ancillary revenue		+		+
Productivity: Efficiency, Cost Savings		+		+
Health and Safety: Injuries, Absenteeism		+		+
HR: Worker Retention, Hiring Costs		+		+
Taxes: Sales, Corporate		-	+	
Program Delivery Costs				
UPSKILL Program Delivery		-	-	-
UPSKILL Release Time	-	-		-
Benchmark Model: Benefit/Cost per Participant ($)	+ / -	+ / -	+ / -	+ / -
Return on Investment (ROI) (%)	+ / -	+ / -	+ / -	+ / -

Notes: Effects of UPSKILL were expected on participating workers, firms, and government. The total for all stakeholders represents the sum of all three perspectives. Non-participating workers and firms were out of scope of this analysis and not included. See the limitations section below. The expected effects are shown as a benefit (+), cost (-) or neither (blank). Uncertain outcomes are shown as (+/-).

The participant perspective identifies the net benefits and costs for program group members who were eligible for UPSKILL training. The primary financial benefit expected for participants was increased employment and earnings from improvements in their skills and job performance. This might arise from increased job retention and hours of work with their primary employer, higher rates of employment with secondary employers, and/or increased wages. In terms of costs, higher levels of employment and earnings were anticipated to bring higher taxes for participants as well as lower transfer payments such as Employment Insurance (EI) and income assistance (IA).

The firm perspective identifies the net benefits and costs for businesses in the program group who were eligible for UPSKILL training at their workplace. The primary financial benefits expected for firms included increased sales revenue from higher occupancy rates and ancillary spending of hotel guests, reductions in costs arising from gains in productivity, fewer errors and wastage, as well as lower levels of absenteeism and hiring costs from increased job retention. In terms of costs, participating firms would pay for the portion of increased earnings for their employees arising from higher retention rates or increased wages attributable to UPSKILL. Higher revenues would also bring increased corporate

taxes. Firms would also bear part of the costs of implementing UPSKILL including the direct costs for on-site training as well as the release time for workers to engage in training.

The government perspective identifies net benefits and costs for federal and provincial governments. Anticipated benefits included increased federal income taxes and premiums, as well as decreased transfer payments resulting from increased earnings and lower EI receipt of participants. Similarly, the provincial government would gain from increased provincial income tax and premiums and possible reductions in IA payments. Increased revenues and costs savings of firms would bring increased corporate taxes for federal and provincial governments as well as increased sales taxes. The primary costs for government included the program expenditures for implementing UPSKILL including the start-up design costs as well as a portion of the training delivery costs (see the section on cost-sharing).

The total column is the simply the sum of all three perspectives and represents the combined benefits and costs to all participating stakeholders within the study. For a given component, if a benefit to one group equals the cost to another, there is no total net benefit or cost and it is simply considered a transfer (the far right column is blank). If the benefits to one perspective are greater than the costs to the others, it represents a total net benefit for all stakeholders.

The final two rows of the Table 46 illustrate total net benefits and costs for each perspective and along with the estimated return on investment. The total net benefit or cost is simply the sum of all benefits and costs for that perspective. The ROI on training investments (final row) was estimated by dividing the total net benefit or cost for that stakeholder (the second last row) by the total program delivery costs for that perspective, listed in the lower panel of Table 46.

Limitations

There are two important caveats to this cost-benefit analysis. First, it provides a fairly conservative estimate of the benefits and costs to participating workers and firms that can be considered a likely *lower bound:* it includes only direct financial benefits and ignores non-financial ones such as improved social and psychological capital or reductions in stress and social isolation. Extending the above "benchmark model" to include some of these non-financial benefits would likely increase the returns substantially. The final section of the chapter presents an "extended model" for the cost-benefit analysis, providing estimates of the monetary value of some of the key non-financial benefits of UPSKILL.

Second, the estimates of the benefits to government as well as the overall combined return on investment should be considered with caution as they do not take account of general equilibrium effects. Indeed, the analysis ignores the effect that increased revenue and productivity of participating firms may have on other *non-participating* firms and workers in the industry. For instance, in highly competitive local markets, increased occupancy at one hotel may drive down occupancy in another. As such, the resulting aggregate revenue gains and increases in corporate taxes would be offset to a degree. Similarly, if productivity gains among participating workers within a firm leads to layoffs for non-participating workers, this would offset overall gains in earnings and tax revenue for government. While there was little indication of layoffs of non-participants in UPSKILL, this effect may extend beyond the follow-up period. The scope of the current analysis is referred to as *partial equilibrium*: it is limited to the effects on participating stakeholders and ignores the effects on non-participants.

UPSKILL implementation: program design and delivery costs

Table 47 presents the total costs of implementing UPSKILL including all program design and training delivery costs. Research costs are only included to the extent that their outputs were utilized for the delivery of program services such as organizational needs assessments, worker skills assessments, and job performance assessments. All costs are presented on a per participant basis to allow for equivalent comparison with the calculated benefits. Total costs for a given component were divided by the number of participants engaged in that given activity (sample sizes provided in Chapters 2 and 3). For example, for activities that occurred before random assignment such as recruitment, organizational needs assessments, and worker skills and performance assessments, costs were applied to the full study sample when calculating the per participant cost. For activities that occurred after random assignment such as the curriculum customization and training delivery, total costs were applied only to program group members who were eligible for training.

The first panel illustrates the costs for one-time program activities that occurred at the onset of the project including costs to engage the sector, conduct a performance gap analysis, and design the core curricula. These costs would be incurred by government and/or other central association representing the sector rather than individual firms. For UPSKILL, the sector engagement and performance gap analysis cost about $46 per participant and $281 for the development of the core curricula, for a total of $327 in design and development costs on a per participant basis. If performance gaps are already well understood and suitable LES curricula exist these activities may be fairly streamlined and available at lower cost in a subsequent implementation. Furthermore, these types of sector-level design and development activities could be spread over a larger number of participants if the scale of a future implementation was much greater than UPSKILL, effectively driving these costs down considerably on a per participant basis.

Program activities that occurred at the firm level are listed in the second panel of Table 47. These included costs for firm and worker recruitment, organizational needs assessments, skills and performance assessments for workers, and the customization and delivery of LES training. Costs to recruit firms and workers and to conduct organizational needs assessments were approximately $360 per participant. Skills and performance assessments of workers added an additional $225 in cost per participant. As expected the largest single program expenditure was for the costs of customization and training delivery at nearly $1,450 per participant. Expenses for travel, supplies, and other miscellaneous delivery costs accounted for an additional $215 per participant. The total cost for program delivery at the firm-level was about $2,250 per participant.

Table 47 UPSKILL: program design and delivery costs, per participant

Program Element	Per participant Costs ($)	
	Sector	Firms
One-Time Actvities, at the Sector Level		
Sector Engagement, Performance Gap Analysis	$46.03	
Core Curricula Development	281.28	
Recurring Actvities, for each Firm		
Recruitment, Needs Assessments		$359.00
Worker Skills and Performance Assessments		224.96
Customization and Training Delivery		1,447.52
Travel, Supplies, Other		215.91
Total Program Costs	**$327.30**	**$2,247.39**
Worker Release Time		288.42
Total Program Costs and Release Time	**$327.30**	**$2,535.81**

Sources: Calculations from UPSKILL delivery partner contracts, expense claims, and the Participant Management Information System (PMIS).

UPSKILL training was delivered in the workplace during work hours. As a result, participants needed to be "released" from their core job activities to attend the training. The average participant received just under 20 hours of LES training, adding an additional $288 per participant in cost to the program. For the UPSKILL demonstration project, half of these costs were reimbursed to firms by government. However, for purpose of the "benchmark" ROI study below, costs for all workplace training and full release time for workers were assumed to be paid by employers. The total costs for program delivery of firm-level training activities and the release time for workers' wages amounted to $2,535.81 per participant.

Impacts of UPSKILL on participants and firms: benefits and costs

This section presents the monetary value of the benefits and costs of UPSKILL, which arise from the impacts on participants and firms over the 12-month period after their enrolment in the project. The first section below considers the impacts of UPSKILL on participant earnings, income taxes, and their receipt of EI benefits. The second section presents the benefits associated with increases in firm revenues and reductions in costs as well as the costs arising from increased corporate taxes. A further breakdown is provided for each of the benefits and costs in order to facilitate their allocation across the different stakeholders in the next section of the analysis (see *Net benefits and costs, by stakeholder*).

Participant impacts: employment and earnings, EI receipt, and income taxes

Table 48 summarizes the primary financial impacts of UPSKILL on participants. The first panel illustrates the impacts on participants' average weeks worked per year, average hours worked per week, and average wages, considering all jobs held. As presented in Chapter 6, while there were no

significant impacts on hours of work per week or average wages, the increased job retention resulted in a significant increase of 3.7 weeks worked per year for program group members. Given weekly hours of work and average wages, this resulted in an increase in annual earnings for participants of about $1,900. However, for the purposes of the cost-benefit analysis, just over $1,400 fall within the observation period.

The second panel presents impacts of UPSKILL on participants' EI receipt. While there was about a 4.0 percentage point reduction in the number of participants receiving EI compared to the control group, when averaged across the full sample this amounted to just over a single week reduction, totaling $261 in fewer benefits received[13]. The third panel provides estimates of the federal and provincial tax payments that participants made on their incremental earnings. Taxes were imputed using 2012 rates.

Table 48 Participant impacts: employment, earnings, transfer receipt, and taxes

Outcome	Program Group	Control Group	Impact	Standard Error
Employment and Earnings				
Average weeks worked per year, all jobs	40.8	37.0	3.7 *	(2.1)
Average hours worked per week, all jobs	35.5	32.9	2.6	(2.0)
Average Hourly Wage, all jobs	14.32	14.83	-0.50	(0.8)
Total Earnings through 9-month observation period	**$15,386**	**$13,973**	**$1,413 ***	**(780.8)**
Transfer Payment Receipt				
Received Employment Insurance benefits (%)	4.1	7.8	-3.7	(2.5)
Average number of weeks on Employment Insurance	1.2	2.2	-1.0	(0.7)
Total EI Benefits received	**$288**	**$549**	**-$261**	**(179.3)**
Taxes and Premiums Paid				
Federal Income Taxes and Premiums	$2,000	$1,817	$184 *	(101.5)
Provincial Income Taxes	$1,231	$1,118	$113 *	(62.5)
Total Taxes and Premiums	**$3,231**	**$2,934**	**$297 ***	**(164.0)**
Sample size	**665**	**503**		

Sources: Calculations from the UPSKILL participants surveys at baseline and 9 months after enrolment.

Notes: Sample sizes vary for individual measures due to missing values. Regression-adjustment was used to increase the precision of cross-sectional impact estimates (see Appendix A). Two-tailed t-tests were applied to the difference-in-differences between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

[13] While this result just fails to reach statistical significance in the standard regression-adjustment model (see Appendix A), it is significant at the 90 per cent level in at least one variant of the model. Given the importance of outcome, it is included in the cost-benefit results.

Firm impacts: revenues, costs, and taxes

Revenue

Table 49 summarizes the key financial impacts of UPSKILL on firms. The first panel illustrates the impacts on revenue in terms of increased occupancy rates, food and beverage sales, and ancillary spending of guests. As illustrated in Chapter 8, participating firms reported significant increases in average occupancy rates and accompanying sales within the 12-month period after their enrolment in UPSKILL. Given average daily rates and room availability, increases in occupancy rates resulted in about $1,850 in incremental room revenue for participating firms, on a per participant basis, during the year after enrolment. This was accompanied by increased food and beverage and ancillary spending of approximately $260 for a total of just over $2,100 per participant in incremental revenue for firms.[14]

Productivity

The second panel of Table 49 summarizes the impacts of UPSKILL on the productivity of participants and their supervisors. As illustrated in Chapter 8, participating firms reported significant increases in the efficiency of staff in three departments in terms of both the time to complete core job tasks and administrative activities. Given average time saved and wage rates of participants, this translated into cost savings for firms of about $645 per participant over the course of the follow-up period. Savings from reductions in administrative time (non-service activities) accounted for an additional $335 per participant in the year after enrolment. Accompanying increased efficiency and accuracy of staff performance were gains in productivity of supervisors. Significant reductions in the amount of time supervisors spent monitoring and correcting work of their staff were reported. This translated into average cost savings for firms of about $1,200 per participant over the follow-up period.[15]

Hiring costs

Participating firms also experienced a reduction in hiring costs arising from increased job retention. Program group members were 8.5 percentage points more likely to be working with the same employer up to a year after enrolment compared to control group members. This translated into about one less hire for the average employer. Employer surveys with senior management indicated this was valued at about $4,400 in cost savings or an average of $293 per participant enrolled.

[14] For the purpose of the cost-benefit analysis, impacts of increased occupancy on revenue were estimated conservatively by limiting reported increases to the months between the end of training and the final follow-up for a maximum of nine months. Impacts were also weighted by the percentage of participants who successfully passed industry performance standards at the post-training assessment, effectively discounting employer reports that were not supported by objective measures of participant performance.

[15] Similar to revenue calculations, impacts on staff efficiency were limited to the months between the end of training and the final follow-up and were weighted by the percentage of participants who successful passed the productivity components of the performance assessment.

Corporate tax, sales tax

The average total benefit to participating firms arising from increased revenue, productivity gains, and reduced hiring costs amounted to $4,590 per participant. In terms of costs, firms paid for incremental earnings of participants in the amount of $1,286 per participant. With employers covering the full firm-level program delivery costs of $2,247 and release time of $288, the total net benefit for firms, before taxes, amounted to an average of $770 per participant. Corporate taxes were imputed on this amount using 2012 rates, estimated at $192 per participant. Sales tax remissions were also imputed based on the impacts on revenue. Firms would have collected and remitted sales taxes to the government in the amount of $255 per participant based on 2012 rates.

Table 49 Firm impacts: revenue and productivity gains

Outcome	Program Group	Control Group	Impact	Standard Error
Increases in Revenue				
Room Revenue				
Average Change: Year-over-year Occupancy Rate	1.06	0.40	0.66 **	0.28
Change in Room Revenue, Per Participant	$3,391	$1,548	$1,843 *	946
Food and Beverage Revenue				
Average % Change: Food and Beverage Revenue	27.3	13.8	13.4 *	7.2
Change in F & B Revenue, Per Participant	$612	$417	$195	222
Ancilliary Revenue				
Average % Change: Ancilliary Revenue	3.3	5.8	-2.6	3.5
Change in Ancillary Revenue, Per Participant	$202	$138	$64	73
Total Change in Revenue, Per Participant	**$4,092**	**$1,967**	**$2,124 ***	**1,171**
Productivity Gains				
Cost Savings: Core Job Task Efficiency				
Housekeeping: Minutes saved per shift	16.9	9.1	7.8	5.6
Front Desk: Minutes saved per shift	23.5	2.7	20.8 ***	5.6
Food and Beverage: Minutes saved per shift	15.5	0.8	14.7 **	6.1
Total savings on core job tasks, per participant	**$840**	**$195**	**$645 *** **	**205**
Cost Savings: Administrative Efficiency				
Housekeeping: Hours saved per week	1.1	0.5	0.6 *	0.3
Front Desk: Hours saved per week	0.8	0.1	0.7 ***	0.2
Food and Beverage: Hours saved per week	0.5	0.1	0.3	0.2
Total Savings administrative, per participant	**$445**	**$110**	**$335 *** **	**114**
Cost Savings on Supervision				
Housekeeping: Hours saved per week	3.5	2.0	1.5	1.2
Front Desk: Hours saved per week	4.2	0.7	3.5 ***	1.1
Food and Beverage: Hours saved per week	1.7	0.1	1.6 *	0.8
Total Savings, Supervisory, per participant	**$1,606**	**$413**	**$1,193 *** **	**421**
Reductions in Hiring Costs				
Working with the same Employer as baseline (%)	91.3	82.9	8.5 **	4.9
Savings from foregone hire, per participant			**$293**	
Sample Size	**45**	**41**	**86**	

Sources: Calculations from the UPSKILL employer surveys and data submissions.

Notes: Sample sizes vary for individual measures due to missing values. Regression-adjustment was used to increase the precision of cross-sectional impact estimates (see Appendix A). Two-tailed t-tests were applied to the difference-in-differences between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Net benefits and costs, by stakeholder

This section combines all the financial impacts of UPSKILL with the program design and delivery costs, assigning them to each of the stakeholders. This allows for the calculation of the net benefits and costs along with the estimation of return on investment, separately, for each stakeholder. Table 50 presents the net benefit and costs of UPSKILL from the perspective of participants, participating firms, and government.

The first column illustrates that participants experienced a substantial positive return on investment from LES training, as they incurred very little cost under this model. Participants received just over $1,400 in earnings gains during the 12-month follow-up period, but with few additional costs. The primary costs were indirect, arising from income taxes and foregone EI benefits in the amount of $558. In terms of direct costs, while participants did not pay for LES training under the UPSKILL model, some did engage in learning activities on their own time, an average of 1.9 hours, representing an equivalent cost of $27 at their current wage rate. As a result, with substantial earnings gains and trivial training costs, participants had a substantial positive return on investment.

The second column illustrates that participating firms experienced a significant positive ROI from LES training, even when they were assumed to bear the full costs of delivery. Increased revenue and higher productivity more than offset the costs of the program. In terms of benefits, firms experienced gains in revenue, cost savings from increased productivity, and reductions in hiring costs that amounted to nearly $4,600 per participant. In terms of costs, firms paid the increased earnings to participants (the amount that arose from improved retention), along with increased corporate taxes. When firms were assumed to bear full costs of training ($2247) and release time ($288), their net benefit was $577 per participant for an average return on investment of 23 per cent.

The third column illustrates that governments also experienced a positive ROI, assuming they cover only costs of program launch for sector-level activities including the sector engagement, needs analysis and curricula design. Governments experienced gains in terms of increased income, corporate, and sales tax revenue, as well as a small reduction in transfers (EI benefits). These gains more than offset the costs of sector-level activities to support the launch of workplace LES training including the initial engagement, sector needs analysis, and the design of the core curricula. The net impact on government budgets was positive at $679 per participant, for an average return on investment of over 200 per cent, under the assumption that governments cover only start-up costs. Of course, this positive return is contingent on the employers making investments in LES training and the increased tax revenues that these investments bring about. When governments cover full or partial costs of the training, as was the case in the UPSKILL project, they experience a net cost rather than a positive return (this scenario is discussed in the next section).

The final column illustrates that LES training produced a large net benefit and overall positive ROI when considering all outcomes of stakeholders combined. The combined benefits of LES training for all stakeholders was $4,973 per participant through the first year after enrolment. This more than offsets the full costs of the program including all sector-level components and firm-level delivery costs, which amounted to $2,889 per participant, for a net benefit of $2,084 and an overall return on investment of 72 per cent.

Table 50 Net benefits and costs, return on investment, by stakeholder

	Perspective			
	Participants	Firms	Government Budgets	Society
Financial Components (Fully-monetized)				
Participant Impacts				
Employment and Earnings	1413	-1286		127
Transfer payments: EI, welfare	-273		273	0
Tax payments	-285		285	0
Firm Effects				
Sales Revenue: Occupancy rates, Ancillary revenue		2124	0	2124
Productivity: Efficiency, Cost Savings		2174	0	2174
Health and Safety: Injuries, Absenteeism		0	0	0
HR: Worker Retention, Hiring Costs		293	0	293
Taxes: Sales, Corporate		-193	448	255
Program Delivery Costs				
UPSKILL Program Delivery	0	-2247	-327	-2574
UPSKILL Release Time	-27	-288	0	-315
Benchmark Model: Benefit/Cost per Participant ($)	828	577	679	2084
Return on Investment (ROI) (%)	3067%	23%	208%	72%

Sources: Calculations from the UPSKILL employee surveys, employer surveys and data submissions, and PMIS data.

ROI under cost-sharing alternatives

In 2013, the Federal Government of Canada announced the Canada Job Grant, which has replaced a set of existing Labour Market Agreements (LMA) with the provinces that were signed in 2008.[16] While details are still being negotiated for its implementation in mid-2014, one key component will be a matching grant for employers who have a plan to train Canadians for an existing or better job. The proposed formula would have employer contributions matched by the Federal and Provincial Governments up to a maximum of $5,000 per trainee.

UPSKILL results can be used to estimate the return on investment from workplace LES training under various cost-sharing scenarios including those in the Canada Job Grant. Table 51 presents a summary of the return on investment from UPSKILL for participating firms and government under different distributions of the $2,247 in program delivery costs.

16 Canada Job Grant: 2013 Economic Action Plan. Federal Government of Canada: Ottawa.

The first panel presents the scenario where employers bear the full costs resulting in the "benchmark" of 23 per cent ROI for firms. The second panel presents a cost-sharing alternative similar to that under the proposed Canada Job Grant, where governments bear 2/3 of the cost of workplace training and employers cover 1/3. Under this scenario, the ROI from the LES training for an average firm is over 160 per cent, more than seven times the benchmark scenario. However, governments are in this case clearly making an investment to encourage employers to train and generate these returns, with a net cost to government of $445 per participant.

Table 51 Net benefits and costs, return on investment, by stakeholder

Scenarios for Cost-sharing	Net Benefit before Program Costs	Total Program Costs	Total Net Benefit	Return on Investment
Benchmark: 100% Employer-sponsored				
Firms (100% of workplace delivery costs)	3112	2535	577	**23%**
Government (sector-level design costs only)	1006	327	679	**208%**
Federal Job Grant Scenario				
Firms (1/3 delivery + release time)	2738	1037	1701	**164%**
Government (2/3 delivery + sector design costs)	1380	1825	-445	**-24%**
Break-even for Government				
Firms (60% delivery + release time)	2886	1630	1256	**77%**
Government (40% delivery + sector design costs)	1232	1232	0	**0%**

Sources: Calculations from the UPSKILL employee surveys, employer surveys and data submissions, and PMIS data.

The final panel presents an interesting scenario, where employers cover 60 per cent of delivery costs and governments cover 40 per cent. This cost-sharing arrangement represents the short-term *break-even* point for government budgets and yet still results in a substantial ROI for firms of about 77 per cent from their investments in LES training.

Tables 52 and 53 present the full breakdown of net benefits and costs to each stakeholder under these alternative scenarios. Table 52 illustrates net benefits and costs under the Canada Job Grant scenario while Table 53 corresponds to the break-even 60-40 scenario. In both cases, the net benefits and costs to firms and government change as a result of not only shifting program delivery costs but also their implications for the corporate tax burden. A higher subsidy rate means lower training costs, which effectively increases income that is subject to corporate taxes.

Table 52 Net benefits and costs, under program cost-sharing: 1/3 firms, 2/3 government

	Stakeholder			
Benefit or Cost	**Participants**	**Firms**	**Government Budgets**	**Total Combined**
Participant Impacts				
Employment and Earnings	1413	-1286		127
Taxes and Social Transfers	-558		558	
Firm Effects				
Sales Revenue		2124		2124
Productivity: Cost Savings		2174		2174
Hiring Costs, Other Expenses		293		293
Taxes: Corporate, Sales		-567	822	255
Program Delivery Costs				
UPSKILL Program Delivery		-749	-1825	-2574
UPSKILL Release Time	-27	-288		-315
Net Benefit or Cost per Participant ($)	**828**	**1701**	**-445**	**2084**
Return on Investment (%)	**3067%**	**164%**	**-24%**	**72%**

Sources: Calculations from the UPSKILL employee surveys, employer surveys and data submissions, and PMIS data.

Table 53 Table 8 net benefits and costs, under program cost-sharing: 60% firms, 40% government

	Stakeholder			
Benefit or Cost	**Participants**	**Firms**	**Government Budgets**	**Total Combined**
Participant Impacts				
Employment and Earnings	1413	-1286		127
Taxes and Social Transfers	-558		558	
Firm Effects				
Sales Revenue		2124		2124
Productivity: Cost Savings		2174		2174
Hiring Costs, Other Expenses		293		293
Taxes: Corporate, Sales		-419	674	255
Program Delivery Costs				
UPSKILL Program Delivery		-1342	-1232	-2574
UPSKILL Release Time	-27	-288		-315
Net Benefit or Cost per Participant ($)	**828**	**1256**	**0**	**2084**
Return on Investment (%)	**3067%**	**77%**	**0%**	**72%**

Sources: Calculations from the UPSKILL employee surveys, employer surveys and data submissions, and PMIS data.

Extended model: valuing impacts on intangibles

Chapter 5 presented a number of positive impacts of UPSKILL on psychosocial outcomes including improvements in self-confidence, motivation, and attitudes and beliefs that are indicative of increased psychological capital. Similarly, the chapter illustrated important improvements in social engagement and social capital that can support not only further learning but broader well-being. The challenge for policymakers is that it can be difficult to interpret the relative value of these kinds of intangible impacts. This section provides some guidance in interpreting their relative importance by estimating their implicit value to participants based on their relationship with life satisfaction and income. One can then incorporate the value of these intangibles into an extended cost-benefit model for UPSKILL.

The approach utilizes an empirical model similar to Helliwell and Huang (2005) and applied in Gyarmati, et al. (2008) to place a dollar value on the impacts of an intervention on an intangible outcome. Helliwell and Huang estimated the perceived value of social capital, measured as trust in the workplace, by making use of a life satisfaction equation as a direct utility function. Essentially, the approach makes use of the relationship between a variable of interest and life satisfaction, by

comparing this with the measured effect that income has on life satisfaction, known as compensating differentials.[17]

Life satisfaction, income, and psychosocial outcomes

Table 54 provides the results of an ordered-probit, regressing life satisfaction on a number of the key covariates consistent with those in Helliwell et al. (2005) including log annual income and key demographics such as gender, age, marital status, and the presence of dependents. It also included a number of other possible determinants of life satisfaction appropriate for the UPSKILL sample and a workplace training context including measures of participants' skills, key characteristics of the firms where they work, and measures of their motivation and engagement as well as social capital.

Results reveal that most of the key estimated coefficients have the appropriate signs consistent with expectations and earlier applications of the methodology. Coefficients on income, marital status, and age are all significant and positively associated with life satisfaction. Similarly, indicators of a firm's commitment to training, an individual's motivation in the workplace, and the extent of their social capital are all significant and positively associated with life satisfaction.

A second ordered-probit regression was run to expand on the number of intangible outcomes that were included drawing on the rich set of psychosocial variables collected in the UPSKILL participant surveys. Chapter 5 illustrated that UPSKILL had impacts on three *composite* measures of psychological capital, social capital, and behavioral indicators of social engagement and further learning. These three composite measures provide a fairly parsimonious way to include a rich set of indicators of psychosocial outcomes:

[17] This approach is operationalized in a regression of life satisfaction on income, the variable of interest, and a range of covariates. The ratio of the coefficients of the variable of interest to the respondent's log income provides an estimate of the relative value of the particular variable to income. The impacts of UPSKILL can then multiplied by these coefficients to derive an estimate of the impacts' dollar value.

Table 54 Ordered-Probit of life satisfaction

Factors	Coefficient	StdErr	
Gender - Female (ref: Male)	0.12	(0.10)	
Married (ref: Not Married)	0.36	(0.09)	***
Age Effect 30-54 (vs < 30)	0.10	(0.10)	
Age Effect 55 and over (vs < 54)	0.49	(0.17)	***
Presence of Child (ref: None)	0.12	(0.09)	
Have Postsecondary Education (ref: less than PSE)	0.08	(0.09)	
ES Skill - Document Use L1 (ref: L2, L3 or missing)	0.03	(0.09)	
In Union Firm (ref: non-unionized)	-0.23	(0.10)	**
Firm's training resources unknown (ref: provided)	-0.25	(0.12)	**
Effective communication skills (ref: not passed)	-0.09	(0.13)	
Effective problem solving skills (ref: not passed)	-0.08	(0.13)	
Effective teamwork skill (ref:not passed)	0.13	(0.12)	
High Trust (ref: not high, missing)	0.06	(0.09)	
High MES-Psychological (ref:not high, missing)	0.21	(0.09)	**
High Network Size (ref: not high, missing)	0.24	(0.10)	**
Log Annual Earnings	0.31	(0.14)	**
Cut-off - 10	-2.91	(0.44)	***
Cut-off - 9	-2.18	(0.44)	***
Cut-off - 8	-1.38	(0.44)	***
Cut-off - 7	-0.65	(0.43)	
Cut-off - 6	-0.25	(0.43)	
Cut-off - 5	0.22	(0.44)	
Cut-off - 4	0.65	(0.44)	
Cut-off - 3	0.86	(0.44)	*
Cut-off - 2	1.21	(0.46)	***
Number of Observations	**611**		

Sources: Calculations from the UPSKILL employee and employer surveys.

Notes: Wald Chi-squared tests were applied to the estimates.

Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

- **The psychological composite measure** consisted of six indicators, each of which included several questions pertaining to a specific area of psychological capital, including: i) future orientation (5 items), ii) receptivity to continuous learning (3 items), iii) motivation and engagement at work (5 items), iv) self-efficacy (10 items), v) trust (3 items), and vi) confidence in Essential Skills used in everyday life (6 items).
- **The social capital composite measure** consisted of six indicators, including: i) overall network size (1 item), ii) network density, i.e. proportion of contacts who knew each other (1 item), iii) proportion of contacts known from work (1 item), iv) proportion of contacts with a different occupation (1 item), v) proportion of contacts from a different community (1 item), and vi) various kinds of supports received from these contacts (4 items).
- **The behavioural composite measure** consisted of four indicators, each of which included questions pertaining to a specific area of behaviour, including: i) preparing for the future by learning new things at work or in one's personal life (1 item), ii) behaviour related to motivation and engagement at work (4 items), iii) use of Essential Skills in everyday life (7 items), and iv) volunteering for groups and organizations (1 item).

Table 55 provides the results of the expanded regression. Once again, the coefficients on income and key demographics are significant and have the expected relationships with life satisfaction. One of the three new covariates for psychosocial outcomes is also significant and positively correlated with life satisfaction. Interestingly, psychological capital appears to have the strongest relationship with life satisfaction of the three indicators. This is not entirely surprising, given the perceptional nature of life satisfaction, and the strong relationship that psychological capital has with social capital and behavioural measures of engagement. Indeed, measures of psychological capital may account for a good deal of the effect of a range of psychosocial outcomes.

Valuing the impacts of UPSKILL on psychosocial outcomes

Drawing on the coefficients of the ordered-probit regression, the formula to calculate the relative value of any intangible variable of interest is the ratio of the coefficient on log annual income to the coefficient on the variable of interest. For instance, for the psychological capital measures, this ratio represents the percentage of annual income that a one-point increase on the composite scale is worth to participants in equivalent dollars. This suggests that UPSKILL participants value every increased indicator of psychological capital at about $5,150 in equivalent annual income. Average impacts of UPSKILL on the composite measure of psychological capital were 0.34 (significant at the 99 per cent level), which translates into the equivalent of an additional $1,750 in net benefits for participants.

This clearly illustrates the relative importance of the psychosocial impacts of Essential Skills interventions – and the importance of assessing them in an extended cost-benefit analysis. Participants achieved more than double the value from psychosocial gains ($1,750) compared to their net financial benefits ($828) alone. Furthermore, incorporating these gains into the combined net benefit that was estimated in the benchmark model for all stakeholders ($2,084), results in about an 80 per cent increase, up to a total of $3,834, and in a near doubling of the overall return on investment (132 per cent vs. 73 per cent).

Table 55 Ordered-Probit of Life Satisfaction

Factors	Coefficient	StdErr	
Gender - Female (ref: Male)	0.14	(0.10)	
Married (ref: Not Married)	0.37	(0.09)	***
Age Effect 30-54 (vs < 30)	0.06	(0.10)	
Age Effect 55 and over (vs < 54)	0.46	(0.17)	***
Presence of Child (ref: None)	0.12	(0.09)	
Have Postsecondary Education (ref: less than PSE)	0.10	(0.09)	
ES Skill - Document Use L1 (ref: L2, L3 or missing)	0.03	(0.09)	
Unionization information not available	0.13	(0.19)	
Firm's training resources unknown (ref: provided)	-0.23	(0.12)	**
Effective communication skills (ref: not passed)	-0.06	(0.13)	
Effective problem solving skills (ref: not passed)	-0.08	(0.13)	
Effective teamwork skill (ref:not passed)	0.10	(0.12)	
Psychological capital Indicator	**0.07**	**(0.03)**	**
Behavioural engagement Indicator	**-0.07**	**(0.05)**	
Social capital, network resource indicator	**-0.02**	**(0.03)**	
Log Annual Earnings	**0.28**	**(0.14)**	**
Cut-off - 10	-2.72	(0.46)	***
Cut-off - 9	-2.00	(0.46)	***
Cut-off - 8	-1.19	(0.46)	***
Cut-off - 7	-0.48	(0.45)	
Cut-off - 6	-0.08	(0.45)	
Cut-off - 5	0.38	(0.46)	
Cut-off - 4	0.81	(0.46)	*
Cut-off - 3	1.01	(0.46)	**
Cut-off - 2	1.36	(0.48)	***
Number of Observations	611		

Sources: Calculations from the UPSKILL employee and employer surveys.

Notes: Wald Chi-squared tests were applied to the estimates.

Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Chapter 10: Conditions for success – an explanatory analysis

The results presented in the preceding chapters have shown that UPSKILL produced large positive impacts on participants in a number of areas of their lives including skills and job performance, employment and earnings, and a range of psychological and social outcomes. This gives rise to a natural question about the distribution of these impacts: are the gains arising from Literacy and Essential Skills (LES) training relatively homogeneous or are they experienced to a greater or lesser degree by certain subgroups? For example, do women fare better than men? Are positive impacts focused among youth or older workers? Do immigrants gain more from the intervention than non-immigrants? If there is variability in the impacts of workplace LES training, this gives rise to a second set of questions about the factors influencing success: under what conditions does LES training produce significant impacts? What are some of the "success factors" to consider when delivering workplace LES training in order to maximize its benefits? Answers to these questions have important implications for how practitioners conduct needs assessments and customize LES training solutions for employers and learners.

This chapter addresses both sets of related questions by looking at key differences in the impacts of LES training across various sub-groups of workers and firms defined by their characteristics at the time of enrolment. The first section of the chapter considers differences in impacts by key demographic subgroups such as gender, age, and immigrant status. The second section considers other key characteristics of learners and firms that may mediate or influence the impacts of training such as participants' starting skill levels, social capital, or receptivity to learning as well as factors related to the firm such as the depth of their business needs and their prior commitments to training. A final section of the chapter extends the traditional subgroup analysis with a multivariate non-experimental analysis of the importance of the training process, such as the number of training hours and the extent of its alignment with business needs.

Summary of findings

- **Positive impacts of UPSKILL on workers' skills, job performance, and various psychosocial outcomes were felt by most participants throughout out a range of demographic subgroups.** Impacts were observed among most subgroups of interest including those based on gender, age, marital status, household income, and immigrant status.
- **While UPSKILL led to similar gains for men and women in terms of document use and psychological capital, men benefited more than women in regard to numeracy, and vice versa for social capital**. Both men's and women's document use skills were enhanced by UPSKILL training. However, in terms of numeracy, men benefited more from the training than women. Similarly, in terms of attitudinal and behavioural aspects of psychological capital, men and women experienced gains of similar magnitude, but for another psychosocial outcome — social capital — it was women who were more likely to benefit than men.
- **Immigrants benefited from UPSKILL to a significantly greater degree than Canadian-born participants in terms of Essential Skills and job performance, but not psychosocial change**. Immigrants experienced much larger, and rising, gains from UPSKILL than non-immigrants in one Essential Skill in particular – document use. Immigrants also benefited more than non-immigrants in

terms of job performance, specifically in regard to effective communication and resolving customer complaints. In terms of psychological capital, behavioural indicators of literacy practice, and social capital, non-immigrants experienced impacts that were not statistically different from immigrants.

- **UPSKILL had larger impacts on skills and job performance for participants who had lower pre-training Essential Skills.** While skills and performance impacts were experienced by most UPSKILL program group members, those with lower pre-training skills experienced larger impacts, notably, on job performance. Importantly, this occurs because many of those with higher literacy skills were able to improve their job performance without LES training (gains in job performance were seen in both program and control groups at Level 2).
- **LES training also had larger impacts when participants were receptive to learning and had a higher degree of trust exhibited at the time of enrolment.** While those in low-trust environments experienced skill gains from LES training, this did not translate into improved job performance. It appears that for participants with low levels of trust, skills gains produced from LES training do not "transfer" to the workplace.
- **In terms of firm characteristics, LES training had larger impacts on performance in firms where the employer identified a greater breadth of business needs prior to training.** Program group members working in firms that reported a high degree of need in six or more core business areas experienced substantially larger impacts on literacy scores and job performance than the control group. While workers in firms with fewer than six core business needs did experience short term skills gains, this group experienced no longer-term impacts at the second assessment.
- **LES training also had larger impacts in firms with a prior culture of learning and demonstrated commitment to training.** One such indicator of a firm's commitment to training is their prior investments in it, either through direct expenditures and/or incentives for workers. Results suggest that impacts of UPSKILL on the skills and job performance of workers were larger in firms that had prior investments in training, of any kind, within the prior six months, while no impacts whatsoever were found in firms that could not say what their recent investments had been.
- **In terms of the training process, the analysis revealed that the degree of alignment between the business needs of employers and the focus of the curriculum is a significant determinant of gains in job performance.** UPSKILL results confirm that gains in job performance were significantly correlated with the number of *tangible* business needs that employers articulated. Furthermore, when training appeared focused and customized to meet these business needs, notably in the area of oral communication and customer relations, performance gains were significantly larger.

Differences in the impacts, by demographic characteristics

Differences in impacts were assessed across a wide range of subgroups defined along baseline characteristics such as gender, age, marital status, number of dependents, household income, and immigrant status. Results of this demographic subgroup analysis suggest that while some differences in the magnitude of impacts were found, most participants benefited from LES training in terms of gains in skills, job performance, or other psychosocial outcomes. Positive impacts were observed among most

subgroups including those based on gender, age, household income, and immigrant status. For instance, both men and women experienced gains in literacy scores and job performance, though gains for women were somewhat larger on document use and for men on numeracy. While non-immigrants experienced a range of positive impacts, effects were even greater for immigrants on document use, oral communication, and particular areas of job performance.

Gender differences in impacts

UPSKILL impact estimates varied notably by gender for two outcomes: Essential Skills and psychological capital. There were no other differences of note by gender for job performance or other financial or non-financial outcomes.

Essential Skills

The results presented in Table 56 below indicate that both men and women in the program group experienced significant gains in **document use** scores, though the effects for women may have been somewhat more sustainable over longer assessment periods.

For men, the first panel (rows 1 and 3) indicates that in the first follow-up training assessment and for those taking follow-up assessments less than six months after enrolment, the program group experienced considerably higher skills gains than the control group, by 15.3 and 23.9 points, respectively. The results for the second follow-up and for those with assessments 6 to 12 months after enrolment suggest skills gains declined somewhat after the initial assessment, but rose again later, though not necessarily to initial levels.

Women, too, experienced skills gains, though of a lower magnitude soon after the intervention than men, but rising to greater levels than men later in the follow-up period. Panel 2, in rows 1 and 2, indicates that the differential gain for female program group members was 8.9 points in the first assessment and 23.7 points in the second. Similarly, in rows 3-5 it is observed that there were small and statistically insignificant gains of 7.7 points for those with assessments at earlier than 6 months following enrolment, rising to 8.7 points at 6 to 12 months after enrolment, and finally to 24.0 points for those with tests later than 12 months after enrolment.

Finally, the last column of the second panel confirms that the differences in document use skill gains between men and women were not statistically significant, even though some differences in proportion appear large. For example, the 15.3 point impact on the mean scores of men in the immediate post-training assessment is, in a statistical sense, not much different from the 8.9 point impact on the mean scores of women. Similarly, the 24-point gain experienced by men assessed later than 12 months after the intervention was found to be statistically similar to the 21.7-point gain experienced by women.

Table 56 Subgroup differences in impacts on document use, by gender

	Program Group			Control Group			Difference-in-Difference		Subgroup
Outcome	Baseline	Follow-up	Change	Baseline	Follow-up	Change	Impact	Standard Error	Difference
Male									
Immediate post-training assessment (1-9 months)	237.6	255.3	17.7	226.5	229.0	2.5	**15.3 ****	(6.2)	
Second post-training assessment (6-18 months)	234.6	258.6	24.0	229.5	244.1	14.6	**9.4**	(10.8)	
Mean scores among those with assessments									
Less than 6 months after enrolment	240.3	264.0	23.7	228.8	228.6	-0.2	**23.9 ****	(9.9)	
6 to 12 months after enrolment	235.2	252.5	17.4	224.3	236.6	12.3	**5.0**	(7.5)	
Greater than 12 months after enrolment	229.9	252.9	23.0	228.0	230.5	2.5	**20.5**	(13.2)	
Female									
Immediate post-training assessment (1-9 months)	224.0	234.9	10.9	230.6	232.6	2.0	**8.9 ****	(4.0)	**-6.4**
Second post-training assessment (6-18 months)	224.8	239.4	14.7	229.5	222.5	-7.0	**21.7 *****	(6.7)	**12.3**
Mean scores among those with assessments									
Less than 6 months after enrolment	229.9	243.0	13.1	232.8	238.2	5.4	**7.7**	(5.9)	**-16.2**
6 to 12 months after enrolment	224.3	235.2	10.9	229.1	231.3	2.2	**8.7 ***	(5.2)	**3.7**
Greater than 12 months after enrolment	220.3	234.9	14.6	228.3	218.8	-9.4	**24.0 *****	(7.7)	**3.5**

Sources: Calculations from TOWES Skills Snapshot skills assessments, administered at baseline and post-program

Notes: Sample sizes vary for individual measures due to missing values. Only those who completed both pre- and post assessments are included.

Two-tailed t-tests were applied to difference-in-difference between the program and control group outcomes.

Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Turning to gender differences in impacts on **numeracy**, gains were experienced largely by men, who drove the positive numeracy results for the full sample discussed in Chapter 4. Rows 1 and 3 of the first panel of Table 57 indicate that men experienced differential gains compared to the control group of 17.7 points in the first assessment and 20.6 points among those with assessments earlier than 6 months after enrolment. However, the gains weakened somewhat to 14.5 points for those with assessments 6 to 12 months after enrolment. For women, the results shown in the second panel indicate that although small impacts were detected, they were not statistically significant.

The last column of the second panel shows that differences in differential numeracy gains observed between female and male training participants were statistically significant, as indicated by the † symbol. Men tended to profit more than women in the first assessment (by 13.6 points) or for assessments that were within the first 12 months after the intervention (by 15-15.5 points). However, the differences in gains between men and women were insignificant later in the follow-up period.

Table 57 Subgroup differences in impacts on numeracy, by gender

Outcome	Program Group Baseline	Program Group Follow-up	Program Group Change	Control Group Baseline	Control Group Follow-up	Control Group Change	Difference-in-Difference Impact	Difference-in-Difference Standard Error	Subgroup Difference	
Male										
Immediate post-training assessment (1-9 months)	268.6	281.9	13.2	255.0	250.6	-4.4	**17.7 *****	(5.2)		
Second post-training assessment (6-18 months)	263.0	266.0	3.0	254.1	254.0	-0.1	**3.2**	(9.0)		
Mean scores among those with assessments										
Less than 6 months after enrolment	270.0	285.5	15.4	255.8	250.6	-5.2	**20.6 *****	(7.6)		
6 to 12 months after enrolment	269.2	280.4	11.3	254.4	251.2	-3.2	**14.5 ****	(6.8)		
Greater than 12 months after enrolment	252.1	257.8	5.7	250.5	252.2	1.6	**4.1**	(11.2)		
Female										
Immediate post-training assessment (1-9 months)	238.4	247.0	8.6	242.5	247.0	4.5	**4.1**	(2.9)	**-13.6**	††
Second post-training assessment (6-18 months)	233.7	243.3	9.5	225.1	232.9	7.7	**1.8**	(4.5)	**-1.4**	
Mean scores among those with assessments										
Less than 6 months after enrolment	242.2	252.6	10.4	246.1	250.9	4.8	**5.6**	(4.4)	**-15.0**	†
6 to 12 months after enrolment	236.3	245.2	9.0	236.1	246.1	10.0	**-1.0**	(3.9)	**-15.5**	†
Greater than 12 months after enrolment	240.2	245.6	5.5	231.8	230.5	-1.3	**6.8**	(5.1)	**2.7**	

Sources: Calculations from TOWES Skills Snapshot skills assessments, administered at baseline and post-program

Notes: Sample sizes vary for individual measures due to missing values. Only those who completed both pre- and post assessments are included.
Two-tailed t-tests were applied to difference-in-difference between the program and control group outcomes.
Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.
Two-tailed F-tests were applied to differences between the outcomes of the two subgroups.
Statistical significance levels are indicated as: † = 10 per cent; †† = 5 per cent; ††† = 1 per cent.

Psychosocial outcomes

The first two panels in Table 58 indicate that UPSKILL impacts on composite indicators of increasing psychological capital and positive behavioural change were similar for men and women. The first panel shows magnitudes of impact of 12.5 to 14.7 percentage points, respectively, for increasing psychological capital (three or more indicators). However, the results were significant only for women and not for men because the latter made up a relatively small portion of participants. The second panel shows significant and almost identical impacts on positive behavioural change (three or more indicators) for men and women, of 23 and 22.6 percentage points respectively.

The third panel of Table 58 shows a significant impact of 9.1 percentage points on social capital for women but no impact among men. The results further reveal (as indicated by the † symbol in the last column) that the 10.7 percentage-point difference between the impacts for women over men is statistically significant. This is the only instance of statistically-significant psychosocial impacts between subgroups.

Table 58 Subgroup differences in psychosocial impacts, by gender

Outcome	Program Group	Control Group	Impact	Standard Error	
Three or more indicators of increasing psychological capital					
Men	52.1	39.6	**12.5**	(9.3)	
Women	42.8	28.1	**14.7 ****	(6.2)	
Three or more indicators of increasing positive behavioural change					
Men	45.8	22.7	**23.0 ****	(9.0)	
Women	44.9	22.3	**22.6 *****	(6.9)	
Four or more indicators of increasing social capital					**+**
Men	7.2	8.8	**-1.5**	(5.8)	
Women	13.7	4.6	**9.1 *****	(2.8)	
Sample Size	**413**	**311**	**724**		

Sources: Calculations from the UPSKILL employee surveys at baseline and 9-months after enrolment.

Notes: Sample sizes vary for individual measures due to missing values. Two-tailed t-tests were applied to the difference-in-differences between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent. Two tailed F-tests were applied to the differences in outcomes between the two-subgroups. Statistical significance levels are indicated as: + = 10 per cent; ++ = 5 per cent; +++ = 1 per cent.

Immigrant status subgroup differences in UPSKILL impacts

The UPSKILL subgroup results indicate that immigrants benefited from UPSKILL to a significantly greater extent than non-immigrant (Canadian-born) participants, in terms of Essential Skills and job performance, but not necessarily in terms of psychosocial change. The differences by immigrant status are shown for each of these outcome areas in turn.

Essential Skills

Immigrants appear to have experienced much larger, and rising, gains compared to non-immigrants in one Essential Skill in particular: **document use**. Comparing the first row of the non-immigrant and immigrant panels of Table 59 indicates a gain of 14.1 points in the mean score of non-immigrants assessed at less than 6 months after enrolment, compared to 17.3 points for immigrants. Moreover, for immigrants, the gains rose to 20 points for those assessed at 6 to 12 months after enrolment and to 27 points for those assessed later than 12 months (27 point differential gain vs. a 14 point differential gain, which is significant both unadjusted and adjusted). Note as well from the first two rows of the second panel of Table 59 that immigrants experienced relative – and increasing – gains compared to the control group of 19.1 points in the first (immediate) follow-up assessment and of 26 points in the second assessment. This compares to the non-immigrant results, which indicate more stable gains of about 14 points in both the short term (14.1 point increase, less than 6 months after enrolment) and longer term follow-up (13.8 points, greater than 12-month after enrolment, though insignificant given the small sample size for non-immigrants in the longer-term follow-up).

The last column of the second panel of the table indicates that the differences noted above between immigrants and non-immigrants were statistically significant: immigrants tended to experience statistically more significant gains in document use skills than non-immigrants (14.2 points in the first assessment and 29.2 points in the second). The difference of 27.5 percentage points in favour of immigrants as revealed by the 6 to 12 post-enrolment assessment was also statistically significant.

Table 59 Subgroup differences in impacts on document use, by immigrant status

	Program Group			Control Group			Difference-in-Difference		Subgroup	
Outcome	Baseline	Follow-up	Change	Baseline	Follow-up	Change	Impact	Standard Error	Difference	
Non-Immigrant										
Immediate post-training assessment (1-9 months)	235.3	256.3	21.0	231.6	247.6	16.0	**4.9**	(4.6)		
Second post-training assessment (6-18 months)	236.9	262.3	25.5	242.3	270.9	28.6	**-3.2**	(9.3)		
Mean scores among those with assessments										
Less than 6 months after enrolment	237.3	265.9	28.6	234.5	249.0	14.5	**14.1** *	(7.7)		
6 to 12 months after enrolment	237.1	255.9	18.8	231.6	257.9	26.3	**-7.5**	(5.6)		
Greater than 12 months after enrolment	222.6	247.5	24.9	238.8	250.0	11.1	**13.8**	(9.4)		
Immigrant										
Immediate post-training assessment (1-9 months)	222.2	229.2	7.0	227.8	215.7	-12.1	**19.1** ***	(4.7)	**14.2**	††
Second post-training assessment (6-18 months)	221.7	233.2	11.6	224.1	209.7	-14.4	**26.0** ***	(6.6)	**29.2**	††
Mean scores among those with assessments										
Less than 6 months after enrolment	230.6	238.4	7.8	228.5	219.0	-9.5	**17.3** ***	(6.6)	**3.2**	
6 to 12 months after enrolment	219.5	227.8	8.3	225.7	214.0	-11.7	**20.0** ***	(5.7)	**27.5**	†††
Greater than 12 months after enrolment	222.3	233.1	10.8	223.0	206.8	-16.2	**27.0** ***	(8.5)	**13.3**	
Sample Size			**411**			**273**	**684**			

Sources: Calculations from the UPSKILL employee surveys and TOWES tests at baseline, 3 months, and approximately 9 months after enrolment.

Notes: Sample sizes vary for individual measures due to missing values. Two-tailed t-tests were applied to the difference-in-differences between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent. Two tailed F-tests were applied to the differences in outcomes between the two-subgroups. Statistical significance levels are indicated as: + = 10 per cent; ++ = 5 per cent; +++ = 1 per cent.

Job performance

Differences in performance impacts by immigrant status were observed particularly in the guest relations area, specifically in regard to effective communication and resolving guest complaints. The results for these performance outcomes are presented in this section.

Starting with **effective communication**, the results in Table 60 indicate that UPSKILL enhanced the performance of immigrants more than non-immigrants. Program group immigrants had a relative gain of 22.9 percentage points in the incidence of meeting or surpassing standards compared to the control group. While the proportion of program group immigrants meeting or surpassing standards rose from 71.1% at baseline to 94% at follow-up, the proportion of control group immigrants remained steady at 88.9%. This contrasts with the experience of non-immigrants in the program group, who experienced no relative gain of note in the proportion meeting or surpassing standards of communication compared to the control group. The net gain in favour of the program group in the proportion of non-immigrants

meeting standards (16.3 percentage points) was matched by the net gain in favour of the control group in the proportion surpassing standards (15 percentage points).

One potential reason for not observing an impact on communication of non-immigrants is that they were already at higher levels at baseline and so had little room to improve compared to immigrants. At baseline, 92.8% of program group non-immigrants met or surpassed effective communication performance standards, compared to 71.1% of immigrants in the program group.

Table 60 Subgroup differences in impacts on oral communication, by immigrant status

Effective communication	Program Group			Control Group			Difference-in-Difference		Subgroup Difference	
	Baseline	Follow-up	Change	Baseline	Follow-up	Change	Impact	Standard Error		
Non-Immigrant										
Met or surpassed industry certification standard	92.8	98.3	5.5	89.3	93.6	4.2	**1.3**	(4.7)		
Surpassed	77.1	86.0	8.9	55.2	79.1	23.9	**-15.0****	(7.6)		
Met	15.7	12.3	-3.4	34.1	14.4	-19.7	**16.3****	(7.1)		
Below, but approaching	5.8	1.7	-4.1	5.6	-0.1	-5.6	**1.5**	(3.3)		
Far below	1.4	0.1	-1.4	5.1	6.5	1.4	**-2.8**	(3.3)		
Immigrant										
Met or surpassed industry certification standard	71.1	94.0	22.9	88.9	88.9	0.0	**22.9*****	(5.8)	**21.6**	†††
Surpassed	56.1	79.6	23.6	75.7	74.8	-0.9	**24.5*****	(8.2)	**39.5**	†††
Met	15.0	14.3	-0.7	13.2	14.1	0.9	**-1.6**	(6.5)	**-17.9**	†
Below, but approaching	13.3	1.1	-12.1	9.0	6.3	-2.7	**-9.5****	(4.6)	**-11.0**	†
Far below	15.6	4.9	-10.7	2.1	4.8	2.7	**-13.4*****	(4.2)	**-10.6**	††
Sample size	**112**	**112**		**149**	**149**		**261**			

Sources: Calculations from industry performance assessments, administered at baseline and 9-months post-program

Notes: Sample sizes vary for individual measures due to missing values. Only those who completed both pre- and post assessments are included.

Two-tailed t-tests were applied to difference-in-difference between the program and control group outcomes.

Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Two-tailed F-tests were applied to differences between the outcomes of the two subgroups.

Statistical significance levels are indicated as: † = 10 per cent; †† = 5 per cent; ††† = 1 per cent.

The last column of the second panel of the table confirms that immigrants benefited from UPSKILL more than non-immigrants in terms of improved communication performance. Program group immigrants experienced significantly larger gains than the control group in the proportion meeting or surpassing standards (21.6 percentage points higher) and significantly larger declines in the proportion who were far from meeting standards (10.6 percentage points lower) or who were below but approaching (11 percentage points).

The other guest relations performance area where immigrants benefited more from UPSKILL than non-immigrants is **resolving guest complaints**. The first row of the first panel of Table 61 indicates that there was no relative gain for non-immigrants in the program group compared those in the control group in the proportion meeting or surpassing standards (-1.1 percentage points). This contrasts with 19.9 percentage point net gain for immigrants in the program group in the proportion meeting or surpassing standards compared to those in the control group, which in fact experienced a small decline between baseline and follow-up of 3.4 percentage points (first row of the second panel). Moreover,

there was a steep decline of 19.2 percentage points in the proportion of program group who were far below meeting standards relative to the control group immigrants (last row of the table).

Finally, the last column of the second panel of the table confirms that program group immigrants experienced significantly larger gains from UPSKILL in resolving guest complaints than the control group. In a pattern similar to the effective communication performance area, the proportion of immigrants meeting or surpassing standards was higher than non-immigrants (by 21.0 percentage points) and the proportion who were far from meeting standards was significantly lower (by 15.2 percentage points).

Table 61 Subgroup differences in impacts on problem solving, by immigrant status

	Program Group			Control Group			Difference-in-Difference		Subgroup	
Outcome	Baseline	Follow-up	Change	Baseline	Follow-up	Change	Impact	Standard Error	Difference	
Non-Immigrant (Canadian-born)										
Met or surpassed industry certification standard	81.3	84.4	3.1	78.9	83.2	4.3	**-1.1**	(6.8)		
Surpass	39.3	54.2	15.0	38.9	56.0	17.1	**-2.2**	(10.1)		
Met	42.0	30.2	-11.8	40.0	27.2	-12.9	**1.0**	(9.6)		
Below, but approaching	11.5	12.3	0.8	17.6	13.3	-4.3	**5.1**	(6.5)		
Far below	7.2	3.3	-3.9	3.5	3.5	0.0	**-3.9**	(4.0)		
Immigrant										
Met or surpassed industry certification standard	56.3	72.8	16.5	73.9	70.5	-3.4	**19.9** **	(8.2)	**21.0**	††
Surpassed	29.7	46.2	16.5	42.5	45.8	3.4	**13.2**	(8.9)	**15.3**	
Met	26.6	26.6	0.0	31.4	24.7	-6.7	**6.7**	(9.0)	**5.7**	
Below, but approaching	27.3	22.1	-5.2	24.4	19.9	-4.5	**-0.7**	(8.1)	**-5.8**	
Far below	16.4	5.1	-11.3	1.7	9.6	7.9	**-19.2** ***	(5.2)	**-15.2**	††
Sample size	**127**	**127**		**89**	**89**		**216**			

Sources: Calculations from industry performance assessments, administered at baseline and 9-months post-program

Notes: Sample sizes vary for individual measures due to missing values. Only those who completed both pre- and post assessments are included.
Two-tailed t-tests were applied to difference-in-difference between the program and control group outcomes.
Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.
Two-tailed F-tests were applied to differences between the outcomes of the two subgroups.
Statistical significance levels are indicated as: † = 10 per cent; †† = 5 per cent; ††† = 1 per cent.

Psychosocial outcomes

Table 62 reveals significant impacts for Canadian-born participants in all three psychosocial areas as indicated by the composite indicators – i.e., increasing psychological capital (15.9 percentage points), positive behavioural change (23.4 percentage points), and increasing social capital (5.4 percentage points). As for immigrants, though impacts were only statistically significant for the indicator of positive behavioural change (15.7 percentage points, panel 2 of the table), the magnitude of the impacts on the other two indicators (panels 1 and 3) was similar in size to those for non-immigrants. Impacts on immigrants for psychosocial outcomes were difficult to estimate because of the small sample for this group, which may explain the lack of statistical significance associated with these impacts.

Finally, as indicated in the last column of the table, UPSKILL impacts on composite indicators of psychosocial change in all three areas were not significantly different between immigrants and non-immigrants.

Table 62 Subgroup differences in psychosocial impacts, by immigrant status

Outcome	Program Group	Control Group	Impact	Standard Error
Three or more indicators of increasing psychological capital				
Canadian Born	46.1	30.2	**15.9 *****	(5.9)
Immigrant	44.8	33.3	**11.4**	(10.4)
Three or more indicators of increasing positive behavioural change				
Canadian Born	42.5	19.0	**23.4 *****	(6.2)
Immigrant	51.0	35.3	**15.7 ***	(9.4)
Four or more indicators of increasing social capital				
Canadian Born	9.9	4.5	**5.4 ****	(2.3)
Immigrant	14.3	9.3	**5.0**	(6.1)
Sample Size	**413**	**311**	**724**	

Sources: Calculations from the UPSKILL employee surveys at baseline and 9-months after enrolment.

Notes: Sample sizes vary for individual measures due to missing values. Two-tailed t-tests were applied to the difference-in-differences between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent. Two tailed F-tests were applied to the differences in outcomes between the two-subgroups. Statistical significance levels are indicated as: + = 10 per cent; ++ = 5 per cent; +++ = 1 per cent.

Differences in impacts, by key mediating factors and workplace context

This section considers differences in subgroup impacts across other key characteristics of learners and firms, which may be important mediating determinants of the effects of LES training such as participants' starting skill levels, social capital, or receptivity to learning as well as factors related to the firm such as the depth of their business needs and their prior commitments to training. The focus of this section is on subgroup differences in the impacts on Essential Skills gains in document use measured at the first and second follow-up assessments) and on job performance (impact on the percentage of those passing the performance component of certification at the follow-up assessment).

Starting skills matter: Essential Skills levels at enrolment

Table 63 present differences in impacts of UPSKILL across subgroups defined by their starting document use levels at the time of enrolment.

Results indicate that LES training had larger impacts on job performance for participants who had lower pre-training Essential Skills. While skills and performance gains were experienced by most UPSKILL participants, those with lower pre-training skills experienced larger impacts, notably, on job performance. For instance, participants with pre-training literacy at Level 1 experienced the largest impact on performance – an increase of approximately 15 percentage points in the proportion who successfully passed industry certification – which is a strict measure of job performance gains (14.5 percentage points). By comparison, those with pre-training literacy at Level 2, particularly those in the mid- to upper-Level 2 range, with scores of 250-274, experienced no significant impacts in their ability to meet certification-level performance.

Importantly, this occurs because many of those with higher literacy skills were able to improve their job performance without LES training i.e. performance gains were achieved in both program and control groups among those with pre-training skills at upper-Level 2. In contrast, those with lower starting literacy levels will not achieve the same breadth of job performance gains without receiving LES training, as measured by the percentage who can successfully pass industry certification. In fact, job performance among control group members with pre-training literacy at Level 1 deteriorated even further over time in the absence of LES training (decreasing 4 percentage points compared to an increase of 11 percentage points for program group members at Level 1).

Table 63 Differences in impacts on skills and job performance, by document use level at enrolment

Outcome	Baseline	Follow-up	Change	Baseline	Follow-up	Change	Impact	Standard Error	Difference
Job Performance									
Met or surpassed expectations (%)									+++
Level 1	60.4	70.9	10.4	61.1	57.0	-4.0	**14.5** **	(6.9)	
Level 2	59.1	70.9	11.8	59.3	69.0	9.8	**2.0**	(6.3)	
Level 3	59.3	80.3	21.0	54.0	75.0	21.0	**0.0**	(7.5)	
Document Use									
Immediate post-training assessment (1-9 months)									
Level 1	199.7	234.1	34.4	200.3	221.0	20.6	**13.7** ***	(3.9)	
Level 2	245.6	245.9	0.3	242.0	233.7	-8.3	**8.7** *	(4.8)	
Level 3	285.6	257.4	-28.1	285.1	249.7	-35.4	**7.3**	(6.6)	
Second post-training assessment (9-18 months)									
Level 1	199.4	234.9	35.5	198.8	226.8	28.0	**7.5**	(8.0)	
Level 2	243.3	246.2	3.0	241.5	230.9	-10.6	**13.6** *	(7.2)	
Level 3	281.5	249.0	-32.5	285.5	244.4	-41.1	**8.6**	(12.2)	

Sources: Calculations from the UPSKILL employee surveys, TOWES tests, and performance assessments at baseline and approximately 9-months after enrolment. Three TOWES tests were administered at baseline, at about 3-months after enrolment, and a final test at approximately 9-months after enrolment.

Notes: Sample sizes vary for individual measures due to missing values. Two-tailed t-tests were applied to the difference-in-differences between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent. Two tailed F-tests were applied to the differences in outcomes between the two-subgroups. Statistical significance levels are indicated as: + = 10 per cent; ++ = 5 per cent; +++ = 1 per cent.

Receptivity to learning: levels of trust at enrolment

While positive impacts of LES training can occur even when motivation in the workplace is low, a positive receptivity to learning is critical, as it can influence both the degree of learning engagement and the use of new skills in the workplace. Factors that compromise participants' receptivity to an LES training program and/or to its application in the workplace will reduce the likelihood of seeing skills and performance gains. A key contextual factor influencing receptivity to learning is the degree to which workers are *trusting* of others before training begins. Measures of generalized trust were used in UPSKILL, which assessed the degree of trust one has in both close contacts (e.g. friends and

neighbours) and those at more social distance (e.g. strangers). Generalized measures are correlated with trust in the workplace, yet they avoid the difficulty of asking about trust in management and supervisors, directly, while the participant is completing a survey within that very workplace.

Table 64 presents differences in impacts of UPSKILL across key subgroups defined by their degree of generalized trust. Results reveal that LES training had larger impacts on both job performance and longer-term skill gains, when participants were more receptive to learning, given higher levels of trust. The second panel of Table 63 shows that while those in both low and high trust environments experienced immediate skill gains from LES training (14.2 and 15.2 point gains respectively), this did not translate into longer term skill gains, and notably, no improvements in job performance for those in low trust environments (panel 1, insignificant difference of 1.8 percentage points on job performance indicator).

While impacts on literacy skills were observed among UPSKILL participants with both low and high levels of trust, impacts on job performance were found only among workers with a high degree of pre-training trust. It seems that for participants with low levels of trust, skills gains produced from LES training did not "transfer" to the workplace. Lower levels of trust can diminish the *application* of newly developed skills to work-related tasks. Situations within the workplace that may diminish trust, for instance, management and union disagreements or recent layoffs, may compromise the impacts of training interventions by reducing the likelihood of learning transfer.

Table 64 Differences in impacts on skills and job performance, by levels of trust at enrolment

	Program Group			Control Group			Difference-in-Difference		Subgroup
Outcome	Baseline	Follow-up	Change	Baseline	Follow-up	Change	Impact	Standard Error	Difference
Job Performance									
Met or surpassed expectations (%)									
Low	61.3	68.2	6.9	56.9	62.0	5.1	**1.8**	(7.0)	
High	59.7	78.4	18.8	60.9	61.9	1.0	**17.7** ***	(6.1)	
Document Use									
Immediate post-training assessment (1-9 months)									++
Low	229.4	245.0	15.6	227.2	228.6	1.4	**14.2** ***	(4.5)	
High	229.1	243.5	14.4	228.1	227.2	-0.8	**15.2** ***	(3.8)	
Second post-training assessment (9-18 months)									
Low	228.9	238.4	9.5	234.0	232.3	-1.7	**11.2**	(7.7)	
High	229.5	241.8	12.3	228.8	221.6	-7.1	**19.4** ***	(6.6)	

Sources: Calculations from the UPSKILL employee surveys, TOWES tests, and performance assessments at baseline and approximately 9-months after enrolment. Three TOWES tests were administered at baseline, at about 3-months after enrolment, and a final test at approximately 9-months after enrolment.

Notes: Sample sizes vary for individual measures due to missing values. Two-tailed t-tests were applied to the difference-in-differences between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent. Two tailed F-tests were applied to the differences in outcomes between the two-subgroups. Statistical significance levels are indicated as: + = 10 per cent; ++ = 5 per cent; +++ = 1 per cent.

Social capital: network size at enrolment

Table 65 presents differences in impacts of UPSKILL across key subgroups defined by the size of their social networks at enrolment, which is a key indicator of the degree to which participants not only have social supports, but also the extent to which they can access other channels for learning. This is critical to furthering engagement in literacy practice, which can amplify skills gains after training.

Results indicate that LES training had larger impacts on job performance for participants who had medium-sized social networks, as opposed to very small networks of less than 4 contacts, or larger networks of 10 or more contacts. The first panel of Table 64 shows that impacts on job performance were driven nearly exclusively by those with medium-sized networks (for those with 4 to 9 contacts, there was 23.5 percentage point impacts). In contrast there were no significant impacts on job performance for those with small or large networks.

The second panel also reveals an important result in terms of short- and longer-term skills gains. While all groups experienced short-term impacts of LES training on document use skills on the immediate assessments, those with very small networks experienced no longer-term skill gains. Document use skills of both program and control groups were stable (at an average of about 232) compared to very large increases in longer term skills of those with larger networks, particularly for those with more than 10 contacts who achieved a 27-point impact on their second assessment. This suggests that social capital is indeed an important mediator in determining longer-term impacts of training interventions. Those with very small networks may need further support in generating opportunities for social engagement to engage in literacy practice.

Table 65 Differences in impacts on skills and job performance, by network size at enrolment

	Program Group			Control Group			Difference-in-Difference		Subgroup
Outcome	Baseline	Follow-up	Change	Baseline	Follow-up	Change	Impact	Standard Error	Difference
Job Performance									
Met or surpassed expectations (%)									+
Less than 4 contacts	61.9	70.3	8.4	60.2	67.2	7.0	**1.3**	(8.0)	
4 to 9 contacts	59.5	75.5	16.0	57.8	50.3	-7.5	**23.5** ***	(6.8)	
10 or more contacts	61.8	70.9	9.1	61.2	75.3	14.0	**-5.0**	(9.6)	
Document Use									
Immediate post-training assessment (1-9 months)									
Less than 4 contacts	231.1	245.6	14.4	229.7	230.7	1.0	**13.4** ***	(5.0)	
4 to 9 contacts	227.8	244.1	16.3	225.1	229.0	3.9	**12.4** ***	(4.3)	
10 or more contacts	226.3	245.0	18.6	229.6	233.1	3.5	**15.2** **	(6.4)	
Second post-training assessment (9-18 months)									
Less than 4 contacts	232.3	231.5	-0.8	232.9	232.5	-0.4	**-0.4**	(11.6)	
4 to 9 contacts	228.0	246.3	18.4	229.0	231.6	2.6	**15.7** **	(6.8)	
10 or more contacts	222.2	254.3	32.0	229.1	234.2	5.2	**26.8** **	(11.3)	

Sources: Calculations from the UPSKILL employee surveys, TOWES tests, and performance assessments at baseline and approximately 9-months after enrolment. Three TOWES tests were administered at baseline, at about 3-months after enrolment, and a final test at approximately 9-months after enrolment.

Notes: Sample sizes vary for individual measures due to missing values. Two-tailed t-tests were applied to the difference-in-differences between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent. Two tailed F-tests were applied to the differences in outcomes between the two-subgroups. Statistical significance levels are indicated as: + = 10 per cent; ++ = 5 per cent; +++ = 1 per cent.

Breadth of business needs: employers' views on needs at enrolment

As part of the organizational needs assessments completed at the onset of the project, employers were asked in some detail about their business needs and motivations for participating in the training. They were asked specifically about their needs in over a dozen business areas relating to sales and customer service, productivity and costs, health and safety, and human resource issues. The importance of business needs can be analyzed by looking at differences in the impacts of LES training between groups of employers based on the breadth of pre-training business needs identified.

Results of this analysis indicate that the impacts of LES training were largest in firms that had reported a wider breadth of business needs before training. Table 66 illustrates that program group members who were working in firms that reported a high degree of need in six or more core business areas experienced substantially larger impacts on literacy scores and job performance than the control group. While workers in firms with fewer than six core business needs did experience short term skills gains at the first follow-up (15.7 points vs. 5.3 points increase in program vs. control group), this group experienced no longer-term impacts on skills (12.4 points vs. 12.3 points increase in program vs.

control groups) nor job performance improvements (0.4 vs. -0.4 per cent change in certification rates in program vs. control groups).

In contrast, those workers in firms with six or more business needs experienced large sustainable impacts not only on immediate skills but also longer-term skills and job performance. At the second post-training follow-up, impacts were more than half a level (a gain of 16.6 points vs. a loss of 10.1 points in program vs. control on TOWES scores) and performance impacts were nearly 17 percentage points (18.5 vs. 1.2 per cent increase in success rates in program vs. control).

Table 66 Differences in impacts on skills and job performance, by breadth of firms' business needs

	Program Group			Control Group			Difference-in-Difference		Subgroup
Outcome	Baseline	Follow-up	Change	Baseline	Follow-up	Change	Impact	Standard Error	Difference
Overall firm assessed work performance									
Met or surpassed expectations (%)									
Less than 6 core needs	62.6	63.0	0.4	59.4	59.1	-0.4	**0.8**	(7.2)	
6 or more core needs	59.0	77.6	18.5	59.4	60.6	1.2	**17.3** ***	(6.3)	
Document Use / Prose									
Immediate post-training assessment (1-9 months)									
Less than 6 core needs	228.7	244.5	15.7	228.7	234.0	5.3	**10.4** **	(4.5)	
6 or more core needs	228.7	240.6	11.9	227.0	226.9	0.0	**11.9** ***	(3.8)	
Second post-training assessment (9-18 months)									**+++**
Less than 6 core needs	226.1	238.6	12.4	226.4	238.6	12.3	**0.2**	(6.8)	
6 or more core needs	228.7	245.3	16.6	229.7	219.6	-10.1	**26.7** ***	(6.1)	

Sources: Calculations from the UPSKILL employee surveys, TOWES tests, and performance assessments at baseline and approximately 9-months after enrolment. Three TOWES tests were administered at baseline, at about 3-months after enrolment, and a final test at approximately 9-months after enrolment.

Notes: Sample sizes vary for individual measures due to missing values. Two-tailed t-tests were applied to the difference-in-differences between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent. Two tailed F-tests were applied to the differences in outcomes between the two-subgroups. Statistical significance levels are indicated as: + = 10 per cent; ++ = 5 per cent; +++ = 1 per cent.

Commitment to learning: prior training investments

The subgroup analysis also considered the importance of a firm's learning culture and commitment to training. While there are various measures of learning culture, two important sets of indicators in a workplace setting relate to the extent of direct financial resources that a firm makes available for training, and the degree of indirect support they provide for its implementation and take-up. Subgroups were defined based on the degree of financial investment through either direct training expenditures or other financial incentives for workers to train: high prior training investments ($5,000 or more in the

last six months); low training investments (less than $5,000); and whether training investments were unknown – a possible indicator of very low levels of employer commitment to training.

Results in Table 67 suggest that a firm's prior investments in training are indeed important indicators of future impacts of LES training. Impacts on job performance and skills of workers were larger in firms that had prior investments in training, of any kind, within the prior six months. Most interestingly, there were no impacts on workers' skills or job performance in firms where employers could not say what their recent training expenditures had been, likely indicating a low commitment to training.

Table 67 Differences in impacts on skills and job performance, by prior training investments

	Program Group			Control Group			Difference-in-Difference		Subgroup
Outcome	Baseline	Follow-up	Change	Baseline	Follow-up	Change	Impact	Standard Error	Difference
Job Performance									
Met or surpassed expectations (%)									+
Training Expenditures below $5,000	58.6	75.5	16.9	60.0	57.1	-2.9	**19.7** **	(9.3)	
Training Expenditures over $5,000	61.3	76.8	15.6	59.3	51.4	-8.0	**23.5** ***	(9.0)	
Training Expenditures unknown	59.7	66.6	6.9	59.8	64.0	4.2	**2.7**	(5.7)	
Document Use									
Immediate post-training assessment (1-9 months)									
Training Expenditures below $5,000	227.6	241.1	13.5	225.6	231.1	5.6	**8.0**	(7.2)	
Training Expenditures over $5,000	229.3	247.0	17.7	229.2	226.6	-2.7	**20.4** ***	(4.7)	
Training Expenditures unknown	228.7	239.2	10.5	227.5	230.4	2.9	**7.7** **	(3.8)	
Second post-training assessment (9-18 months)									+
Training Expenditures below $5,000	227.9	242.6	14.7	225.7	225.0	-0.8	**15.5**	(11.0)	
Training Expenditures over $5,000	227.2	239.3	12.1	229.2	214.9	-14.3	**26.4** ***	(7.9)	
Training Expenditures unknown	226.5	241.9	15.5	227.7	240.0	12.3	**3.2**	(6.3)	

Sources: Calculations from the UPSKILL employee surveys, TOWES tests, and performance assessments at baseline and approximately 9-months after enrolment. Three TOWES tests were administered at baseline, at about 3-months after enrolment, and a final test at approximately 9-months after enrolment.

Notes: Sample sizes vary for individual measures due to missing values. Two-tailed t-tests were applied to the difference-in-differences between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent. Two tailed F-tests were applied to the differences in outcomes between the two-subgroups. Statistical significance levels are indicated as: + = 10 per cent; ++ = 5 per cent; +++ = 1 per cent.

Firm size, structure, and unionization

The analysis also considered differences in impacts of UPSKILL by firm size, structure, and unionization. Results suggest that LES training had positive effects in various types of firms, though performance impacts were somewhat larger in small firms and, notably, in those with larger unionized workforces.

Table 68 presents differences in impacts of UPSKILL across key subgroups defined by the presence of union membership among their staff. Results indicate that impacts on job performance were significantly larger for workers in unionized environments (21.6 per cent vs 8.2 per cent impact on job performance). Importantly, the impacts were larger in these firms because the performance of workers in these environments, without LES training, appears to deteriorate in quality over time (i.e. performance of workers in the control group worsened over time in these firms compared to others). In other words, workers in these firms generally had more to gain from LES training.

In terms of differences in impacts on skills, while the result for short-term skills gains mirrored that on job performance, there was no difference in longer-term skills gains of unionized or non-unionized firms at the second follow-up skills assessment.

Table 68 Differences in impacts on skills and job performance, by unionization

	Program Group			Control Group			Difference-in-Difference		Subgroup
Outcome	Baseline	Follow-up	Change	Baseline	Follow-up	Change	Impact	Standard Error	Difference
Job performance									
Met or surpassed expectations (%)									++
Not unionized	60.5	71.4	10.8	60.5	63.1	2.6	**8.2**	(6.2)	
Unionized	59.8	75.2	15.5	58.6	52.4	-6.2	**21.6** ***	(6.3)	
Document Use									
Immediate post-training assessment (1-9 months)									++
Not unionized	229.2	242.8	13.6	227.3	236.1	8.9	**4.7**	(3.6)	
Unionized	227.8	241.9	14.1	228.0	223.2	-4.7	**18.8** ***	(4.3)	
Second post-training assessment (9-18 months)									
Not unionized	225.5	241.7	16.2	225.4	230.4	5.0	**11.2** *	(6.1)	
Unionized	229.4	242.3	12.9	229.6	228.2	-1.4	**14.2** *	(7.5)	

Sources: Calculations from the UPSKILL employee surveys, TOWES tests, and performance assessments at baseline and approximately 9-months after enrolment. Three TOWES tests were administered at baseline, at about 3-months after enrolment, and a final test at approximately 9-months after enrolment.

Notes: Sample sizes vary for individual measures due to missing values. Two-tailed t-tests were applied to the difference-in-differences between the program and control group outcomes. Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent. Two tailed F-tests were applied to the differences in outcomes between the two-subgroups. Statistical significance levels are indicated as: + = 10 per cent; ++ = 5 per cent; +++ = 1 per cent.

Customization and training process: importance of business alignment

Various implementation factors related to the process of training delivery were also analyzed to determine their influence on the impacts of LES training. This analysis was by necessity a non-experimental one, utilizing only the program group who received training. Key outcomes of interest including the degree of skills gains and performance improvement were regressed on a number covariates including the demographic and mediating factors presented above and indicators of the

dosage (number of training hours) and business alignment (whether training matched articulated business needs, as indicated in the UPSKILL management information system).

Results suggest that impacts varied significantly based not only on hours of training but on the degree of success in customization – specifically, in how well aligned the curriculum was to the tangible business needs, as articulated by employers.

Hours of training

UPSKILL results suggest that the number of training hours had a significant effect on literacy gains, with more hours producing larger gains, but the effect is largely observed in short-term assessments completed immediately after training. For instance, participants receiving between 4 and 12 hours of LES training had an average increase of about 12 points on document use scores when measured immediately after training, compared to about 18 points for those receiving between 13 and 20 hours of training.

However, both groups achieved gains of 20 or more points in longer-term assessments conducted more than a year after training. Similarly, longer-term improvements in job performance, measured at more than six months after training, do not appear to be significantly correlated with the amount of LES training.

Business alignment

Impacts of LES training depend in part on the ability of instructors to customize curricula in a way to ensure it is aligned with the business needs of the firm. The more clearly that employers can articulate *tangible business needs*, rather than intangible interests, the easier alignment is to achieve and the more likely it will be to produce performance gains. UPSKILL results confirm that gains in job performance were significantly correlated with the number of *tangible* business needs that employers articulated. Furthermore, when training appeared focused and customized to meet these business needs, notably in the area of oral communication and customer relations, performance gains were significantly larger. Importantly, an absence of training customization in an area where business needs were identified, had a significant negative effect on performance, as employer expectations were seemingly not met.

Chapter 11: Conclusions and policy implications

The objective of the UPSKILL demonstration project was to provide a credible test of the effectiveness of LES training with the aim of establishing a business case for workplace training investments. This was achieved by measuring the impacts of workplace LES training on workers and firms and estimating its return on investment.

This central policy goal involved a series of complex questions about the decision of firms to participate in LES training, the extent of worker engagement in LES learning, its effects on workers' skills, job performance and business outcomes – and ultimately, on its ROI for firms and cost-effectiveness for government. The findings from UPSKILL have provided rich answers to each of these fundamental questions, summarized below, which provide a compelling business case – that, indeed, LES training can be attractive to firms and workers and have large positive impacts and return on investment.

The decision to train

Will firms accept an offer of LES training?

UPSKILL results demonstrate that an offer of workplace LES training can be attractive to a large number of firms and workers, with high take-up rates and low rates of withdrawal. In total, 110 firms in eight provinces joined the project and underwent organizational needs assessments. A total of 88 firms with clear business and training needs continued in the project and enrolled 1,438 workers. Only one firm who was eligible for training withdrew from the study after accepting the offer and enrolling workers.

A critical feature of the training model that supported high levels of interest and take-up was the embedding of LES training in a highly-relevant performance and business needs framework. This framework was developed through the initial analysis of needs at a sector level, which were then customized to the needs of the firm through the organizational needs analysis. This approach helped facilitate communications with employers and generate and maintain high levels of buy-in for the LES training intervention.

While the subsidy for half of the release time to cover participant wages was welcomed by most firms, it was not a primary motivator for engagement in UPSKILL, compared to the perceived relevance and value of the training.

Engagement in learning activities

Will workers engage in workplace LES training to the extent that is offered?

While a workplace training model has its clear advantages in reaching those currently employed with low literacy, it can be challenging to deliver training in a dynamic business environment. Daily work demands often dictate availability of staff for training.

The amount of release time that UPSKILL employers made available to participants to engage in LES training was, on average, just under 20 hours per participant, per workplace. This was less than

expected, at only about half of that offered. However, once participants began the training, there was very high attendance rates and participants missed only a small fraction of what was offered.

This confirms that the primary constraint on LES training hours will often be the amount of release time that employers allow, as opposed to the attendance rate of participants. LES practitioners need to be realistic about the hours of workplace training they will be able to deliver, through a careful assessment of the business demands facing the firm during the planned delivery period.

Effects of LES training on workers

Does workplace LES training improve workers' skills and job performance?

In terms of literacy skills, average impacts on document use scores were about a quarter of a level, or 11 points, at the first follow-up assessment immediately after training and up to 18 points at the second follow-up about four to six months later. Among those with longer-term assessments of more than a year, a 23-point impact was observed, or nearly half a level. This provides evidence that improvements in Essential Skills can occur fairly quickly after training, and increase subsequent to training, as individuals further utilize their skills and engage in literacy practice.

Importantly, beyond average impacts, the percentage of program group members with document use skills at level 3 increased substantially, by over 20 percentage points, compared to the control group. This represents a sustained longer-term positive effect of LES training on the distribution of literacy scores among workers. For the average employer with 15 participants, this translates into 3-4 additional workers who were meeting the literacy requirements of their job after training.

Significant improvements in job performance were also observed among UPSKILL program group members – in nearly all areas of interest to employers – as reflected in a greater breadth of service quality, improved relations with customers, and increased task efficiency. At the same time, LES training led to significantly higher success rates for participants on the performance component of industry certification – 12 percentage points higher than those without LES training in the control group. This may reinforce not only their job performance but also future training goals, career paths, and employment prospects.

Does workplace LES training improve job retention, employment levels, and earnings?

Essential Skills training led to significantly higher rates of job retention among program group members, by about 8 percentage points, compared to those who did not receive LES training in the control group. They were also less likely to be unemployed within the year after enrolment, with only three per cent of the program group having an unemployment spell compared to nine per cent in the control group. Though there were no significant impacts on wage rates, the increased employment levels provided higher earnings of approximately $1,900 per year.

Effects of LES training on firms

Does LES training improve business outcomes of interest to employers?

Essential Skills training led to significant improvements in both drivers of revenue and reductions in costs. Program group firms experienced larger increases in customer satisfaction, customer loyalty and, ultimately, higher revenue compared to the control group, by over $2,100 per participant, arising from both higher occupancy rates and increased ancillary spending.

LES training also reduced error rates and increased the efficiency of workers within several departments, leading to significant cost savings for firms. Accompanying increased efficiency and accuracy of staff performance, are gains in productivity of supervisors. Significant increases in the confidence that supervisors have in their staff were observed along with reductions in the amount of time they spend monitoring and correcting their work. Other costs savings included reductions in hiring costs associated with the increased job retention, for combined savings of nearly $2,500 per participant.

Return on investment

Does LES training produce a positive ROI for firms and others who bear its costs?

UPSKILL results demonstrate that firms can experience a significant positive ROI from LES training, even when they are assumed to bear the full costs of training delivery. Increased revenue and higher productivity more than offset the costs of the program.

In terms of benefits, UPSKILL firms experienced gains in revenue, cost savings from increased productivity, and reductions in hiring costs that amounted to about $4,600 per participant. In terms of costs, firms paid the increased earnings to participants, increased corporate and payroll taxes, and the costs of the LES training. Even when firms are assumed to bear full costs of training ($2247) and release time ($288), their net benefit is $577 per participant, for an average ROI of 23 per cent. Under cost-sharing arrangements with government, such as those under the proposed Federal Job Grant, return on investment for firms would be even higher, at approximately 160 per cent.

Participants also experienced a substantial positive return on investment from LES training, as they bore few costs under a workplace delivery model. Earnings gains from increased job retention were significantly larger than modest “investments” of personal time that participants spend on training.

Governments also had a positive return on their investment, when they covered only costs of the program launch for sector-level activities including the sector engagement, needs analysis and curricula design. Governments experienced gains in terms of increased income, corporate, and sales taxes, as well as a small reduction in transfers for EI benefits. These gains more than offset the costs of sector-level activities to support the launch of workplace LES training.

Conditions for LES training success

How do the impacts of LES training vary and what are some of the conditions for success?

UPSKILL results indicate that the effects of LES training on skills and job performance vary in several important ways based on learner and firm characteristics as well as the process of training delivery.

In terms of learner characteristics, LES training had larger effects on job performance, for participants who had lower pre-training Essential Skills, which can ultimately drive higher ROI for firms. This reinforces the fact that LES training can benefit a whole spectrum of workers, not just those at the upper end of the skill distribution. Impacts were also larger for those with greater receptivity to learning and higher levels of trust. Low levels of trust can diminish the *application* of newly developed skills to work-related tasks. Situations within the workplace that may diminish trust, for instance, management and union disagreements or recent layoffs, may compromise the impacts of training by reducing the likelihood of learning transfer.

In terms of firm characteristics, UPSKILL results suggest that impacts of LES training vary based on the breadth of a firm's business needs and their pre-existing culture of learning. With respect to business needs, participants who were working in firms that reported a high degree of need in six or more core business areas experienced substantially larger impacts on their literacy scores and job performance than compared to those in firms with fewer core business needs. UPSKILL results also suggest that a firm's commitment to training, either through direct expenditures and/or other incentives for workers, are important indicators of future impacts of LES training. Most interestingly, there were no impacts on workers skills or job performance in firms where employers could not say what their recent training expenditures had been, likely indicating a fairly low commitment.

Are there effective LES training practices that can influence the size of effects?

In terms of training delivery factors, UPSKILL results suggest that one particular element of the implementation process bears a significant influence on the size of improvements in job performance, namely, the degree of alignment that instructors are able to achieve between the training curricula and the business needs of employers, through effective customization.

This depends on the experience of the instructor, the relevance of the initial curricula, and, in particular, on the clarity that employers have in their own needs. The more clearly that employers can articulate *tangible business needs*, rather than intangible interests, the easier alignment is to achieve and the more likely it will be to produce performance gains. UPSKILL results confirm that gains in job performance are significantly correlated with the number of *tangible* business needs that employers articulate. Furthermore, when training appears focused and customized to meet these business needs, notably in the area of oral communication and customer relations, performance gains are significantly larger. Importantly, an *absence* of training customization to an area where business needs have been identified, can have a significant negative effect on performance, as employer expectations are seemingly not met.

Policy implications

UPSKILL results provide compelling evidence that should support government policies and industry initiatives aiming to communicate the value of workplace LES training and encourage employer investment. The project also provides many insights on how to effectively engage employers, how best to implement such training, and on the conditions that are more likely to lead to success.

1. **UPSKILL provides a clear and compelling business case for workplace LES training that can support the engagement of employers and encourage their training investment.**

   The strong positive results from UPSKILL's impact study and associated cost-benefit analysis demonstrate that workplace LES training can generate a positive return on investment for firms. A significant positive ROI was measured in the short-run – after only one year – and with employers bearing the full costs of training delivery. These results will support government policies and industry initiatives that aim to communicate the business case for workplace LES training and encourage employer investments. Results also suggest that cost-sharing arrangements such as those under the Canada Job Grant could lead to substantially higher ROI for firms, which should further facilitate employer investments.

2. **Effective targeting and alignment of LES training with worker needs and business priorities is critical to maximizing ROI and providing a long-term business case for employer investments.**

   The degree of need among both learners and businesses are key considerations for practitioners and employers in determining whether or not to provide LES training and how best to deliver it in order to produce positive effects in a given workplace context.

   The corollary is that firms that do not have or cannot articulate clear business needs may not be ready for LES training. Similarly, workers that do not have explicit and unaddressed gaps in job performance that are linked with low literacy skills, may not be well suited for LES training. A strong business case for workplace LES training is dependent on an understanding of these underlying needs of workers and firms.

3. **One of the keys to its effectiveness is curricula that embeds LES training in a performance and business needs framework that is highly relevant to learners' job tasks and employers' business priorities.**

   Employers can more easily see the applicability of LES training to their context within a performance and business needs framework, compared to an approach that is less occupationally-relevant. It is also easier for practitioners to customize training solutions within a performance and business needs framework that employers understand.

   Customization is not simply an exercise in using authentic workplace materials. Rather, it is about ensuring the training will meet the precise business needs of the employer and the learning needs of participants in ways that improve their job task performance. A highly-relevant occupational and business needs framework helps achieve this while also maintaining high levels of engagement in LES training activities among learners.

4. **A comprehensive organizational needs analysis (ONA) is critical to understanding both needs and training context in order to customize and communicate a training solution that can best achieve positive ROI.**

   An ONA is critical not only to understanding business needs but also the influence of workplace context and it should be used to inform both training design and communication with employers. The ONA is more than an informational gathering exercise. Rather, practitioners can use it to help educate employers about the conditions in their firm that support a positive ROI from their investment. This can help mitigate uncertainty or other concerns that employers have and further encourage them to make the investments in LES training.

5. **A sector-based approach is an efficient way to establish a performance framework, design core curricula, and build partnerships to effectively engage employers in LES training.**

   The challenge for the design of a curriculum for workplace LES training is that it needs to effectively link the underlying Essential Skills with relevant job performance tasks in a way that is responsive to business outcomes. This can be challenging when there is no existing performance framework for the given occupations, or few training tools and assessment instruments. A sector-based approach can be a particularly effective and efficient way to design a skills and performance framework along with a core LES training curriculum for given occupations, which will help training practitioners achieve business alignment in a cost-effective way. The goal is to design a well aligned core curriculum that addresses a specific set of skills and performance gaps that are predominant in a sector. This curriculum can then be customized for the needs of individual firms saving practitioners considerable time and resources while maximizing its relevance.

   A sector-based approach also allows training practitioners to communicate with employers in terms that resonate with their underlying business goals rather than using the language of Essential Skills. It also facilitates the use of existing industry networks that often build on long-established trusting relationships with employers.

6. **Government can play a key role in developing an overall strategy for engaging employers in workplace training, particularly, when adopting a sector-based approach.**

   A sector-based approach can be an important part of an overriding strategy to facilitate wider engagement of employers in workplace training. Governments can play a key role in developing this strategy and facilitating its implementation through support for the logistics of sector needs analyses and design of core training curricula. These fundamental processes involve initial costs that no single firm will choose to bear.

   By supporting the "start-up costs" specifically for a targeted sector needs analysis and the design of *occupation-specific* core curricula, governments can absorb some of the common costs that individual firms are reluctant to bear. For projects of similar scale to that of UPSKILL, these costs would represent only about 13 per cent of the total unit costs for LES training delivery. Absorbing these initial costs should facilitate the subsequent engagement of employers in LES training in any given sector.

7. **Workplace delivery models should include efforts to build employers' capacity for training, support the transfer of learning to work, and enhance the learning culture within firms.**

   Workplace training is not an *event* but rather a *process.* Employers will benefit from ongoing support for workplace training – before, during, and after the training intervention – in order to maximize and maintain their return on investment. This should include efforts to build internal training capacity through "Train-the-Trainer" workshops where supervisors are instructed in the delivery of LES curricula in an occupational context. Support for a firm's learning culture can also be achieved through engagement of management in a broader dialogue and review of their learning policies and practices beyond their training expenditures.

8. **Practitioners should consider LES training within a broader package of complementary programs for employers that respond to alternative needs and workplace constraints.**

   For employers with low training readiness, related challenges with worker receptivity, or difficulty in needs identification, practitioners should be prepared to postpone, or precede, an LES training intervention with alternative or supplementary offerings that aim to improve training readiness and business needs clarity. Governments should continue to explore programs that can best supplement workplace training models to enhance their effectiveness through increasing training readiness.

9. **While workplace LES training can be highly effective, business constraints will often limit available training hours and make implementation difficult for very small firms.**

   The primary constraint on the amount of LES training that is provided is often not the degree of participant interest but rather the amount of release time that employers can make available, given their current business demands. In the UPSKILL project, higher than expected occupancy and/or unplanned staff absences were a primary and ongoing constraint on training hours. Very few employers were able to provide near the maximum of 40 hours. Furthermore, a workplace training model can be particularly challenging for very small firms, with less than 20 employees, as they simply do not have capacity to support on-site training or allow release time for multiple workers that are needed for efficient delivery of group sessions.

10. **A workplace LES training model should be supplemented with alternative approaches that better address workplace constraints, such as LES training through mentorship or with off-site cluster-based delivery models.**

    Governments should explore alternative training delivery models for particular sectors where firms face significant constraints on their ability to train using outside educators within the workplace. For instance, firms in the construction sector could benefit from mentorship-based training models, where over 85 per cent of training is provided through mentoring relationships between journeypersons and apprentices.

    Similarly, in sectors and regions where very small firms are predominant, cluster-based training models could supplement traditional workplace approaches such as UPSKILL to effectively address constraints of small businesses. In this approach, LES training is still embedded within highly-relevant occupation-specific tasks, but instruction occurs offsite, with workers pooled from multiple firms, effectively lowering the barriers to traditional LES training and increasing access among low skilled workers in very small firms.

Appendices

Appendix A: Random assignment, non-response analysis, and regression adjustment

The assignment of participants into the program and control groups was done randomly and independent of any pre-existing characteristics. Nonetheless, it is possible that the members of the two groups could be dissimilar simply by chance. This is unusual if the random assignment is properly implemented and the sample size is adequate, yet it is important in any RCT to verify the success of random assignment in avoiding bias. This is particularly true in cases such as UPSKILL, where random assignment was conducted at the firm level, and might not reduce the pre-existing difference between program and control groups as effectively as in the case of individual level random assignment. A second area of potential sample bias is non-response: if it is not randomly distributed among participants, it can result in the analysis sample of program group participants is very different from that of the control group participants. Therefore, it is crucial to examine whether the program and control groups are balanced both at the time of the baseline survey and at the follow-up survey to account for any differences arising from attrition.

This appendix presents the results of the investigation of program-control balance and non-response of the baseline and analysis samples. The investigation suggests that although there were some differences between the program and control groups at baseline and at the follow-up survey, these differences were minor and within expected randomization errors. Although non-response to the follow-up survey was not completely random,[18] there were only minor differences in non-response between the program and control groups such that the observed post-program differences (and difference-in-differences) between the two groups remain valid estimates of the true program impacts among those who responded to the follow-up survey. However, it should be noted that findings based on the follow-up sample may not be representative to all recruited participants since non-responses are not completely random. Nevertheless, the impact analysis is, indeed, internally valid.

For minor ex-post differences of characteristics between program and control due to random assignment and non-response, regression adjustment can be used to improve precision of the estimates. Adjustment variables were chosen based on the results of the program-control balance and non-response analysis. This appendix also describes the process and rationale of the adjustment variables selected.

[18] It can be shown that item non-responses of certain baseline survey questions were good predictors of follow-up survey non-responses. However, identification of predictors of non-responses to the follow-up survey is insufficient to ensure representativeness of the follow-up sample to that of all recruited participants.

Balance of characteristics between program and control group participants at baseline

Summary statistics of participants' characteristics in the program and control groups are presented in Table A.1. The program-control differences were tested by Student t-tests, and statistical significant differences are denoted by asterisks. Some statistical significant differences are expected. On average, 5 out of every 100 independent t-tests would have been flagged as statistically significant at a 5 per cent significance level simply due to sampling errors, even if there is no systematic difference between the two groups.[19] As shown in Table A.1, the observed personal characteristics of program and control group participants were essentially identical, aside from marital status and Aboriginal status.

[19] This problem is referred to as multiple comparisons in the statistical literature. There are proposed methods to account for the higher false-positive rate due to a large number of t-tests. However, there is no consensus on which method is the most appropriate. This appendix assumes that the two groups are not substantially different if the proportion of significant t-tests is smaller than the level of significance.

Table A.1 Selected characteristics of UPSKILL participants at baseline, by treatment group

Outcome	Program	Control	Difference	Standard Error
Demographics				
Age (average years)	38.1	37.6	**0.4**	(1.4)
Age Distribution (%)				
Under 20	1.5	2.5	**-1.0**	(1.0)
20-24	14.7	16.6	**-1.8**	(2.9)
25-34	26.6	26.1	**0.5**	(3.4)
35-44	21.5	18.6	**2.8**	(2.1)
45-54	20.8	20.5	**0.3**	(2.9)
55 and over	10.9	11.1	**-0.1**	(2.6)
Not reported	3.9	4.6	**-0.6**	(1.4)
Gender (%)				
Male	28.1	26.9	**1.2**	(3.5)
Female	71.3	72.5	**-1.2**	(3.7)
Not reported	0.6	0.6	**0.0**	(0.5)
Marital Status (%)				
Single / Divorced / Widowed	45.2	51.3	**-6.1 ****	(3.0)
Married or Common Law	51.5	46.6	**4.9 ***	(2.9)
Not reported	3.3	2.1	**1.2**	(1.1)
Number of people in household				
Average number of people in household	3.0	2.9	**0.1**	(0.1)
Average number of income generating people in hou	2.1	2.1	**0.1**	(0.1)
Presence of Children (%)				
No child	37.1	34.9	**2.2**	(2.9)
Have a child / children	38.4	36.8	**1.6**	(3.5)
Not applicable / not reported	24.5	28.3	**-3.8**	(3.0)
Highest Educational Attainment (%)				
A university degree	14.7	14.7	**0.0**	(2.8)
A college diploma or certificate	24.0	24.6	**-0.6**	(2.7)
A trade/vocational diploma or certificate	13.9	15.2	**-1.3**	(2.4)
An apprenticeship diploma	0.4	0.6	**-0.3**	(0.3)
A high school diploma	32.5	31.4	**1.1**	(2.9)
Less than high school diploma	10.5	9.6	**0.9**	(2.1)
Not reported	3.9	3.8	**0.1**	(1.5)
Aboriginal Status (%)				
Not aboriginal	85.1	90.2	**-5.1 ****	(2.5)
Aboriginal	5.5	2.8	**2.6**	(1.7)
Not reported	9.4	7.0	**2.5**	(2.0)
Immigrant Status (%)				
Not an immigrant	55.1	58.6	**-3.5**	(8.3)
Immigrant	43.2	39.3	**3.9**	(7.8)
Not reported	1.7	2.1	**-0.4**	(0.9)
Number of Years Since Immigration (%)				
5 Years or LESS	15.0	12.3	**2.7**	(3.8)
6-10 Years	7.1	4.9	**2.2**	(1.7)
11-15 Years	4.7	2.8	**1.9**	(1.4)
16 - 20 Years	4.8	6.6	**-1.8**	(2.9)
Over 20 Years	9.5	10.6	**-1.1**	(2.9)
Not an immigrant or not reported	58.8	62.7	**-3.9**	(7.4)
Age of Immigration Arrival (Years)				
Average Age	26.8	26.9	**-0.1**	(1.2)
Age of Immigration Arrival (%)				
Not reported as an immigrant	56.8	60.7	**-3.9**	(7.8)
0 - 5 years	1.1	1.3	**-0.1**	(0.6)
6 - 17 years	5.1	4.6	**0.5**	(1.5)
18 - 24 years	11.3	8.4	**2.9**	(2.9)
25 - 34 years	11.4	11.2	**0.2**	(2.5)
35 - 44 yea4rs	6.7	6.2	**0.6**	(1.6)
45 and over	2.2	1.6	**0.6**	(0.9)
Not reported	5.3	6.2	**-0.8**	(1.7)
Language use at home (%)				
English	66.3	68.7	**-2.4**	(6.5)
French	0.4	2.5	**-2.1**	(1.7)
Other	21.2	16.0	**5.3**	(3.9)
More than one	8.9	10.0	**-1.1**	(2.7)
Not reported	3.2	2.8	**0.3**	(1.5)
Household Income				
Less than $30,000	35.3	35.2	**0.1**	(3.9)
$30,000 or more	43.3	39.8	**3.5**	(4.0)
Not reported / not applicable	21.3	25.0	**-3.6**	(3.1)
Job Characteristics				
Position (%)				
House service staff	41.4	44.2	**-2.8**	(4.6)
Kitchen staff	10.7	11.8	**-1.2**	(2.7)
Front desk staff	24.9	25.1	**-0.2**	(2.6)
Food service staff	22.9	18.2	**4.7**	(3.9)
Not reported	0.1	0.6	**-0.5**	(0.4)
Permanent / Temporary (%)				
Not permanent	10.5	8.1	**2.5**	(2.1)
Permanent	83.6	87.5	**-3.9**	(3.0)
Not reported	5.8	4.4	**1.4**	(2.0)
Tenure (Year)				
Average length of tenure	5.6	5.6	**0.0**	(0.9)
Tenure (%)				
Less than 3 years	52.2	53.6	**-1.3**	(5.8)
3 years and over	44.6	43.0	**1.6**	(5.7)
Not reported	3.2	3.5	**-0.3**	(1.7)
Wage (%)				
Average hourly wage	11.5	12.0	**-0.5**	(0.7)
Sample size	**787**	**633**	**1,420**	

Sources: Calculations from the baseline survey.

Notes: Sample sizes vary for individual measures due to missing values.
Two-tailed t-tests were applied to difference between the program and control group outcomes.
Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Statistical tests of the program-control difference on the distribution of answers (or means for composite scales) provided in Sections C, D, E, F, G and H of the baseline survey were also conducted. The answers of questions/scale with a statistically significant difference are presented in Table A.2. The t-test results of all other items from the baseline survey are not statistically significant at 5 per cent significance level, and are not presented.[20] These statistically significant differences do not reveal any particular consistent pattern of differences between the program and control groups.

[20] Results produced upon request.

Table A.2 Selected characteristics of UPSKILL participants at baseline, by treatment group

Outcome	Program	Control	Difference	Standard Error
Section C: Health				
Social Functioning				
0	1.9	2.1	**-0.1**	(0.9)
1 - 25	3.9	3.0	**0.9**	(0.9)
26 - 50	17.7	17.1	**0.6**	(2.4)
51 - 75	25.3	21.3	**4.0** *	(2.3)
76 - 100	46.1	53.1	**-7.0** **	(3.1)
Not available	5.1	3.5	**1.6**	(1.6)
Section E: Skills				
Freqency of doing match outside of work				
Never	5.2	5.1	**0.2**	(1.3)
Rarely	11.6	9.6	**1.9**	(1.6)
Less than once a week	10.4	10.1	**0.3**	(1.7)
Once a week	19.6	20.5	**-1.0**	(2.4)
A few times a week	26.4	31.3	**-4.9** **	(2.4)
Every day	18.8	18.8	**0.0**	(2.4)
Not reported	8.0	4.6	**3.4**	(2.2)
Feeling anxious when figuring out such amounts as discounts, sales tax or tips				
Strongly disagree	14.6	12.0	**2.6** *	(1.6)
Disagree	28.0	28.4	**-0.5**	(3.0)
Neutral	23.8	31.8	**-8.0** ***	(2.5)
Agree	20.5	18.2	**2.3**	(2.4)
Strongly Agree	3.4	3.9	**-0.5**	(0.9)
Not reported	9.8	5.7	**4.1** *	(2.4)
Reading is one of my favourite activities				
Strongly disagree	6.0	4.7	**1.2**	(1.4)
Disagree	13.9	10.6	**3.3**	(2.0)
Neutral	23.8	29.7	**-5.9** **	(2.9)
Agree	25.8	25.8	**0.0**	(3.1)
Strongly Agree	23.0	23.7	**-0.7**	(2.8)
Not reported	7.6	5.5	**2.1**	(2.3)
Frequncy of writing or filling reports, bills, invoices, spreadsheets, or budget tables				
Never	34.7	39.0	**-4.3**	(3.5)
Rarely	15.2	18.0	**-2.8**	(2.1)
Less than once a week	5.0	4.9	**0.1**	(1.1)
Once a week	4.7	3.5	**1.2**	(1.0)
A few times a week	9.5	9.5	**0.1**	(1.6)
Every day	20.3	19.7	**0.6**	(2.1)
Not reported	10.5	5.4	**5.2** **	(2.4)
Efficacy of having the math skills to do the main job well				
Strongly disagree	1.7	0.3	**1.3** **	(0.6)
Disagree	4.6	2.7	**1.9**	(1.2)
Neutral	15.4	14.4	**1.0**	(2.0)
Agree	31.1	34.3	**-3.2**	(2.8)
Strongly agree	38.9	40.6	**-1.7**	(3.7)
Not reported	8.4	7.7	**0.6**	(3.0)
Section G: Non-work Life				
Volunteering				
Did not volunteer	42.8	49.1	**-6.3** **	(3.0)
Participated in formal volunteering	49.4	42.8	**6.6** **	(3.1)
Not reported	7.8	8.1	**-0.3**	(3.0)
How many contacts were from work				
None	19.9	19.0	**1.0**	(2.2)
Very few	25.5	25.0	**0.6**	(2.7)
Some	29.2	29.4	**-0.2**	(3.0)
Most	6.6	8.4	**-1.8**	(1.7)
All	3.2	3.8	**-0.6**	(1.1)
Can't say	5.2	2.7	**2.5** **	(1.2)
Not reported	0.1	0.1	**0.0**	(0.0)
Section H: Feelings and attitudes about oneself, work and life				
Motivation/Engagement: Average Score on Anxiousness	4.2	4.3	**-0.1** **	(0.0)
Motivation/Engagement: I sometimes reduce my chances of doing well in my job				
Strongly disagree	22.2	24.8	**-2.6**	(3.3)
Disagree	28.3	30.3	**-2.0**	(3.2)
Neutral	20.1	18.8	**1.3**	(2.4)
Agree	10.5	9.2	**1.4**	(2.0)
Strongly Agree	3.6	1.1	**2.5** ***	(0.9)
Not reported	15.2	15.8	**-0.6**	(5.6)
Sample size	**787**	**633**	**1,420**	

Sources: Calculations from the baseline survey.

Notes: Sample sizes vary for individual measures due to missing values.

Two-tailed t-tests were applied to difference between the program and control group outcomes.

Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Out of the 464 t-tests conducted for the baseline characteristics, only 15 were statistically significant at 5 per cent level of significance. **It is concluded that the minor differences found at baseline were sporadic and within expectation of random error. In other words, there is no evidence to support that the random assignment was systematically biased towards certain types of participants.**

Non-response and balance of baseline characteristics between program and control group participants at the follow-up survey

In terms of participant demographics and job characteristics, there were minor differences in follow-up survey attrition between program and control groups. Table A.3 presents the program-control differences in demographics and job characteristics, separated by the attrition status of the follow-up survey. Chi-squared tests were applied to test the differential attrition by various characteristics, and the statistical significance denoted by plus signs.

The higher proportion of married program group participants than married control group participants appears to carry over only to the follow-up survey sample, but the lower proportion of permanent workers in the program group only carried over to the non-respondents of the follow-up survey. The program group participants with a college diploma or certificate as the highest educational attainment were more likely to respond to the follow-up survey than their counterparts in the control group. Similarly, there was a higher proportion of program group immigrants who arrived 6 to 10 years before the program responding to the follow-up survey than their control group counterparts. **Despite these differences, the demographic and job characteristics of program and control groups remained largely balance in the follow-up sample. The results do not support a hypothesis that differential response among the program and control group participants biased the sample substantially towards a particular group.**

Table A.3 Selected characteristics of participants at baseline, by treatment and response status

	Non-respondents				Respondents			Chi-squared
Outcome	Program	Control	Diff	St	Program	Control	Diff	test
Demographics								
Age (average years)	35.7	36.3	0.7		40.2	39.0	-1.2	
Age Distribution (%)								
Under 20	1.9	2.8	0.9		1.2	2.3	1.1	
20-24	20.1	19.7	-0.4		9.9	13.3	3.4	
25-34	28.3	28.6	0.3		24.9	23.4	-1.6	
35-44	19.8	17.5	-2.2		23.0	19.8	-3.2	
45-54	17.1	16.9	-0.2		24.2	24.4	0.1	
55 and over	8.3	10.2	1.9		13.3	12.0	-1.3	
Not reported	4.5	4.3	-0.2		3.4	4.9	1.5	
Gender (%)								
Male	29.1	27.4	-1.8		27.1	26.3	-0.8	
Female	70.9	72.3	1.5		71.7	72.7	1.1	
Not reported	0.0	0.3	0.3		1.2	1.0	-0.2	
Marital Status (%)								
Single / Divorced / Widowed	51.6	54.2	2.5		39.5	48.4	8.9 **	
Married or Common Law	44.7	44.0	-0.7		57.6	49.4	-8.3 **	
Not reported	3.7	1.8	-1.9		2.9	2.3	-0.6	
Number of people in household								
Average number of people in household	3.0	2.9	0.0		3.1	2.9	-0.2	
Average number of income generating people in hou	2.1	2.1	0.0		2.1	2.0	-0.1	
Presence of Children (%)								
No child	35.3	33.8	-1.4		38.7	36.0	-2.7	
Have a child / children	41.2	35.7	-5.5		35.8	38.0	2.2	
Not applicable / not reported	23.5	30.5	6.9		25.4	26.0	0.6	
Highest Educational Attainment (%)								
A university degree	16.3	13.5	-2.8		13.3	15.9	2.6	
A college diploma or certificate	23.0	28.6	5.6		24.9	20.5	-4.5	++
A trade/vocational diploma or certificate	14.2	13.5	-0.6		13.6	16.9	3.3	
An apprenticeship diploma	0.8	0.9	0.1		0.0	0.3	0.3	
A high school diploma	29.9	29.5	-0.4		34.9	33.4	-1.4	
Less than high school diploma	10.4	10.2	-0.3		10.7	9.1	-1.6	
Not reported	5.3	3.7	-1.7		2.7	3.9	1.2	
Aboriginal Status (%)								
Not aboriginal	83.4	89.8	6.4 **		86.7	90.6	3.9	
Aboriginal	7.0	3.4	-3.6		4.1	2.3	-1.8	
Not reported	9.6	6.8	-2.9		9.2	7.1	-2.1	
Immigrant Status (%)								
Not an immigrant	61.0	60.9	0.0		49.9	56.2	6.3	
Immigrant	37.4	37.2	-0.2		48.4	41.6	-6.9	
Not reported	1.6	1.8	0.2		1.7	2.3	0.6	
Number of Years Since Immigration (%)								
5 Years or LESS	19.8	14.8	-5.0		10.7	9.7	-0.9	
6-10 Years	4.8	5.8	1.0		9.2	3.9	-5.3 **	++
11-15 Years	3.5	3.1	-0.4		5.8	2.6	-3.2 *	+
16 - 20 Years	3.2	3.7	0.5		6.3	9.7	3.4	
Over 20 Years	4.5	8.6	4.1		14.0	12.7	-1.4	
Not an immigrant or not reported	64.2	64.0	-0.2		54.0	61.4	7.4	
Age of Immigration Arrival (Years)								
Average Age	27.5	26.7	-0.8		26.4	27.1	0.8	
Age of Immigration Arrival (%)								
Not reported as an immigrant	62.6	62.8	0.2		51.6	58.4	6.9	
0 - 5 years	1.1	0.9	-0.1		1.2	1.6	0.4	
6 - 17 years	3.2	4.6	1.4		6.8	4.5	-2.2	
18 - 24 years	11.5	8.9	-2.6		11.1	7.8	-3.3	
25 - 34 years	9.1	11.1	2.0		13.6	11.4	-2.2	
35 - 44 yea4rs	5.6	5.2	-0.4		7.7	7.1	-0.6	
45 and over	2.4	1.5	-0.9		1.9	1.6	-0.3	
Not reported	4.5	4.9	0.4		6.1	7.5	1.4	
Language use at home (%)								
English	73.3	70.2	-3.1		60.0	67.2	7.2	+
French	0.3	2.5	2.2		0.5	2.6	2.1	
Other	17.6	14.8	-2.9		24.5	17.2	-7.2	
More than one	6.1	9.5	3.4		11.4	10.4	-1.0	
Not reported	2.7	3.1	0.4		3.6	2.6	-1.0	
Household Income								
Less than $30,000	40.1	36.3	-3.8		31.0	34.1	3.1	
$30,000 or more	37.4	35.4	-2.0		48.7	44.5	-4.2	
Not reported / not applicable	22.5	28.3	5.8		20.3	21.4	1.1	
Job Characteristics								
Position (%)								
House service staff	38.2	44.0	5.8		44.3	44.5	0.2	
Kitchen staff	9.9	11.7	1.8		11.4	12.0	0.6	
Front desk staff	26.7	25.2	-1.5		23.2	25.0	1.8	
Food service staff	24.9	18.2	-6.7		21.1	18.2	-2.9	
Not reported	0.3	0.9	0.7		0.0	0.3	0.3	
Permanent / Temporary (%)								
Not permanent	16.8	9.2	-7.6 **		4.8	6.8	2.0	++
Permanent	78.9	87.4	8.5 **		87.9	87.7	-0.2	+
Not reported	4.3	3.4	-0.9		7.3	5.5	-1.7	
Tenure (Year)								
Average length of tenure	3.9	4.9	1.0		7.1	6.3	-0.8	
Tenure (%)								
Less than 3 years	61.5	58.2	-3.3		43.8	48.7	4.9	
3 years and over	34.2	37.5	3.3		54.0	48.7	-5.3	
Not reported	4.3	4.3	0.0		2.2	2.6	0.4	
Wage (%)								
Average hourly wage	11.2	11.5	0.4		11.7	12.4	0.7	
Sample size	**374**	**325**			**413**	**308**		

Sources: Calculations from the baseline survey and follow-up survey

Notes: Sample sizes vary for individual measures due to missing values.

Two-tailed t-tests were applied to difference between the program and control group outcomes.

Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Chi-squared tests were applied to difference between the respondents and non-respondents program-control differences.

Statistical significance levels are indicated as: + = 10 per cent; ++ = 5 per cent; +++ = 1 per cent.

Out of the 464 t-tests of program-control differences conducted for the baseline characteristics among the follow-up survey respondent sample, only 18 were statistically significant at 5 per cent level of significance. Out of the 464 Chi-squared tests of baseline characteristics' differential responses between the program and control groups, 27 were statistically significant at 5 per cent level of significance. The baseline characteristic differences that were statistically significant within the follow-up sample or those that were statistically significant compared to the non-respondents are presented in Table A.4. **Again, these differences are sporadic and the results suggest that if there was any systematic difference in responses between program and control, the differences would be marginal.**

Table A.4 Selected characteristics of participants at baseline, by treatment and response status

	Non-respondents				Respondents			Chi-squared
Outcome	Program	Control	Diff	Sig	Program	Control	Diff	test
Section C: Health								
Vitality								
0	2.1	0.6	-1.5	*	1.5	3.9	2.4 **	+++
1 - 25	6.7	8.9	2.2		4.4	6.8	2.5	
26 - 50	23.8	17.5	-6.3	*	22.8	25.3	2.6	+
51 - 75	44.9	52.6	7.7	**	47.0	47.7	0.8	
76 - 100	16.0	16.6	0.6		17.7	11.4	-6.3 **	+
Not available	6.4	3.7	-2.7		6.8	4.9	-1.9	
Section E: Skills								
Freqency of reading or using information from books								
Never	7.5	9.8	2.4		7.0	7.1	0.1	
Rarely	20.6	15.4	-5.2		20.3	21.1	0.8	
Less than once a week	11.0	14.8	3.8		10.7	10.7	0.1	
Once a week	9.6	11.7	2.1		9.2	5.8	-3.4 *	++
A few times a week	21.9	17.8	-4.1		16.2	24.7	8.5 ***	+++
Every day	21.9	25.2	3.3		25.2	24.7	-0.5	
Not reported	7.5	5.2	-2.3		11.4	5.8	-5.5	
Feeling anxious when figuring out such amounts as discounts, sales tax or tips								
Strongly disagree	16.6	12.3	-4.3	**	12.8	11.7	-1.1	
Disagree	31.0	26.8	-4.2		25.2	30.2	5.0	
Neutral	22.5	31.1	8.6	**	24.9	32.5	7.5 **	
Agree	18.4	21.2	2.8		22.3	14.9	-7.3 **	++
Strongly Agree	3.2	3.4	0.2		3.6	4.5	0.9	
Not reported	8.3	5.2	-3.1		11.1	6.2	-5.0	
I read only when I have to								
Strongly disagree	35.8	28.6	-7.2	*	24.5	32.1	7.7	+++
Disagree	28.3	35.4	7.0	*	28.8	26.9	-1.9	++
Neutral	10.2	14.8	4.6	*	16.2	14.0	-2.3	++
Agree	15.8	13.2	-2.5		19.1	17.5	-1.6	
Strongly Agree	3.2	3.1	-0.1		3.4	3.9	0.5	
Not reported	6.7	4.9	-1.8		8.0	5.5	-2.5	
Reading is one of my favourite activities								
Strongly disagree	7.8	5.5	-2.2		4.4	3.9	-0.5	
Disagree	15.8	10.5	-5.3	**	12.1	10.7	-1.4	
Neutral	22.5	31.7	9.2	***	24.9	27.6	2.7	
Agree	21.7	27.1	5.4		29.5	24.4	-5.2	++
Strongly Agree	25.1	20.0	-5.1	*	21.1	27.6	6.5	++
Not reported	7.2	5.2	-2.0		8.0	5.8	-2.1	
Enjoy talking about what have read with other people								
Strongly disagree	4.0	2.2	-1.9		2.9	1.6	-1.3	
Disagree	9.4	9.2	-0.1		8.0	7.8	-0.2	
Neutral	23.0	27.4	4.4		24.0	22.4	-1.6	
Agree	36.6	42.8	6.1		40.9	44.8	3.9	
Strongly agree	19.0	12.3	-6.7	**	16.2	17.5	1.3	++
Not reported	8.0	6.2	-1.9		8.0	5.8	-2.1	
Frequency of reading or using directions, instructions, manuals, or reference books								
Never	10.2	10.8	0.6		10.2	13.3	3.1	
Rarely	18.4	18.2	-0.3		20.8	19.5	-1.3	
Less than once a week	12.8	9.8	-3.0		8.0	12.7	4.7 **	++
Once a week	9.6	7.1	-2.5		9.9	7.8	-2.1	
A few times a week	20.6	20.6	0.0		15.7	17.9	2.1	
Every day	22.7	26.8	4.0		23.7	23.7	0.0	
Not reported	5.6	6.8	1.2		11.6	5.2	-6.4 *	++
Frequency of reading or using reports, bills, invoices, spreadsheets or budget tables								
Never	27.5	29.8	2.3		23.7	26.6	2.9	
Rarely	15.5	16.9	1.4		16.9	14.9	-2.0	
Less than once a week	5.9	4.6	-1.3		5.3	7.8	2.5	
Once a week	6.7	4.3	-2.4		5.6	6.5	0.9	
A few times a week	11.0	10.5	-0.5		8.2	9.4	1.2	
Every day	26.5	24.6	-1.9		25.9	29.9	4.0	
Not reported	7.0	9.2	2.3		14.3	4.9	-9.4 ***	+++
Frequency of writing or filling out letters, memos or emails								
Never	26.7	31.4	4.6		27.4	29.9	2.5	
Rarely	19.3	18.8	-0.5		19.4	19.8	0.4	
Less than once a week	4.8	6.2	1.3		6.3	6.5	0.2	
Once a week	5.6	4.0	-1.6		4.8	4.9	0.0	
A few times a week	14.4	12.6	-1.8		9.9	12.0	2.1	
Every day	21.9	21.8	-0.1		20.6	21.8	1.2	
Not reported	7.2	5.2	-2.0		11.6	5.2	-6.4 **	
Frequnecy of writing or filling out directions, instructions, manual or reference books								
Never	31.6	33.2	1.7		26.4	32.1	5.8	
Rarely	22.5	20.3	-2.2		21.1	23.1	2.0	
Less than once a week	6.1	5.5	-0.6		9.2	8.4	-0.8	
Once a week	6.1	3.4	-2.8		6.1	5.5	-0.5	
A few times a week	12.3	16.3	4.0		10.4	11.4	1.0	
Every day	13.6	14.8	1.1		13.6	13.3	-0.2	
Not reported	7.8	6.5	-1.3		13.3	6.2	-7.1 **	+
Frequnecy of writing or filling out reports, bills, invoices, spreadingsheets or budget tables								
Never	36.4	41.8	5.5		33.2	36.0	2.9	
Rarely	15.2	17.5	2.3		15.3	18.5	3.3	
Less than once a week	4.0	5.2	1.2		5.8	4.5	-1.3	
Once a week	4.5	2.5	-2.1		4.8	4.5	-0.3	
A few times a week	11.0	7.7	-3.3		8.2	11.4	3.1	++
Every day	21.7	19.4	-2.3		19.1	20.1	1.0	
Not reported	7.2	5.8	-1.4		13.6	4.9	-8.7 ***	++
Frequency of calculating prices, costs, or budgets as part of the main job								
Never	36.1	38.8	2.7		37.3	36.7	-0.6	
Rarely	15.0	15.4	0.4		14.0	19.5	5.4 **	
Less than once a week	4.0	3.4	-0.6		2.7	4.2	1.6	
Once a week	4.5	4.0	-0.5		3.9	5.5	1.6	
A few times a week	13.1	9.5	-3.6		9.4	10.1	0.6	
Every day	18.4	21.5	3.1		18.2	17.5	-0.6	
Not reported	8.8	7.4	-1.4		14.5	6.5	-8.0 **	+
Efficacy of having the math skills to do the main job well								
Strongly disagree	1.9	0.3	-1.6	**	1.5	0.3	-1.1	
Disagree	3.5	2.5	-1.0		5.6	2.9	-2.6	
Neutral	13.6	13.8	0.2		16.9	14.9	-2.0	
Agree	30.2	32.9	2.7		32.0	35.7	3.8	
Strongly agree	43.0	43.4	0.3		35.1	37.7	2.6	
Not reported	7.8	7.1	-0.7		9.0	8.4	-0.5	
Efficacy of having the technical skills to do the main job well								
Strongly disagree	1.3	0.0	-1.3	**	1.2	1.3	0.1	
Disagree	3.2	2.2	-1.1		3.4	1.0	-2.4 **	
Neutral	11.5	12.3	0.8		14.8	10.1	-4.7 **	
Agree	34.0	34.8	0.8		35.4	42.9	7.5 *	
Strongly agree	42.2	43.7	1.4		36.6	36.7	0.1	
Not reported	7.8	7.1	-0.7		8.7	8.1	-0.6	
Sample size	**374**	**325**			**413**	**308**		

Sources: Calculations from the baseline survey and follow-up survey

Notes: Sample sizes vary for individual measures due to missing values.
Two-tailed t-tests were applied to difference between the program and control group outcomes.
Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.
Chi-squared tests were applied to difference between the respondents and non-respondents program-control differences.
Statistical significance levels are indicated as: + = 10 per cent; ++ = 5 per cent; +++ = 1 per cent.

Table A.4 Selected characteristics of participants at baseline, by treatment and response status

	Non-respondents				Respondents			Chi-squared
Outcome	Program	Control	Diff	St	Program	Control	Diff	test
Section G: Non-work Life								
Number of contacts for specialized advice								
None	9.4	12.0	2.6		14.0	11.7	-2.4	
One to three	51.6	44.9	-6.7		39.2	49.0	9.8 *	+++
Four to six	15.8	17.5	1.8		16.0	16.2	0.3	
Seven to ten	4.5	7.1	2.5		4.1	4.2	0.1	
More than ten	6.1	3.1	-3.1 **		5.1	3.6	-1.5	
Can't say	3.7	4.0	0.3		6.3	4.5	-1.7	
Not reported	8.8	11.4	2.6		15.3	10.7	-4.5	+
How often provided unpaid help to groups or organizations								
Less than once a month	50.8	51.7	0.9		46.5	45.5	-1.0	
About once a month	7.2	8.0	0.8		9.0	10.7	1.8	
About once a week	7.2	2.8	-4.5 ***		3.1	5.8	2.7	+++
A few times a week	3.5	3.1	-0.4		2.4	4.5	2.1 *	
Every day	0.3	0.3	0.0		0.7	0.3	-0.4	
Not reported	31.0	34.2	3.1		38.3	33.1	-5.1	
Number of organizations engaged								
Average number	1.0	0.7	-0.3 **		0.8	0.9	0.0	++
Number of contacts for help with job or career								
None	11.2	10.5	-0.8		11.1	14.9	3.8	
One to three	40.1	36.0	-4.1		38.7	34.7	-4.0	
Four to six	17.4	20.9	3.5		17.2	16.9	-0.3	
Seven to ten	7.8	8.6	0.9		5.8	8.1	2.3	
More than ten	8.8	5.5	-3.3 *		3.9	6.5	2.6 *	++
Can't say	6.1	5.8	-0.3		7.5	8.1	0.6	
Not reported	8.6	12.6	4.1		15.7	10.7	-5.0	++
Total number of people with contacts								
None	2.9	3.4	0.4		3.6	3.2	-0.4	
One to three	22.5	20.9	-1.5		23.7	22.4	-1.3	
Four to six	22.7	21.5	-1.2		23.2	22.7	-0.5	
Seven to ten	14.4	18.8	4.3		14.8	16.2	1.5	
More than ten	22.7	18.2	-4.6		15.5	20.1	4.6	++
Can't say / not reported	14.7	17.2	2.5		19.1	15.3	-3.9	
Number of contacts in different occupations								
None	4.5	5.8	1.3		8.2	6.2	-2.1	
One to three	7.5	11.4	3.9		9.7	9.4	-0.3	
Four to six	28.1	25.8	-2.2		24.5	25.3	0.9	
Seven to ten	30.7	26.2	-4.6		23.7	29.2	5.5	++
More than ten	15.2	15.7	0.5		16.7	13.6	-3.1	
Can't say	4.3	1.5	-2.7 **		3.9	3.9	0.0	
Not reported	9.6	13.5	3.9		13.3	12.3	-1.0	
Number of contacts within the same community								
None	6.7	8.6	1.9		9.0	8.1	-0.8	
One to three	18.4	12.9	-5.5 *		15.5	15.6	0.1	
Four to six	24.9	30.5	5.6		23.7	26.9	3.2	
Seven to ten	23.8	17.2	-6.6 **		19.6	22.7	3.1	++
More than ten	12.8	17.2	4.4		15.3	9.1	-6.2 *	++
Can't say	3.7	1.2	-2.5 **		3.6	3.9	0.3	+
Not reported	9.6	12.3	2.7		13.3	13.6	0.3	
Number of contacts from work								
None	19.5	20.3	0.8		20.3	17.5	-2.8	
One to three	27.3	26.2	-1.1		24.0	23.7	-0.3	
Four to six	31.0	27.1	-3.9		27.6	31.8	4.2	+
Seven to ten	6.4	8.3	1.9		6.8	8.4	1.7	
More than ten	2.4	4.6	2.2		3.9	2.9	-1.0	
Can't say	4.5	1.8	-2.7 *		5.8	3.6	-2.2	
Not reported	8.8	11.7	2.9		11.6	12.0	0.4	
Section H: Feelings and attitudes about oneself, work and life								
Motivation/Engagement: I sometimes reduce my chances of doing well in my job								
Strongly disagree	22.7	24.9	2.2		21.8	24.7	2.9	
Disagree	31.8	31.7	-0.1		25.2	28.9	3.7	
Neutral	20.1	19.4	-0.7		20.1	18.2	-1.9	
Agree	9.9	8.6	-1.3		11.1	9.7	-1.4	
Strongly Agree	3.2	1.2	-2.0 *		3.9	1.0	-2.9 **	
Not reported	12.3	14.2	1.9		17.9	17.5	-0.4	
Sample size	**374**	**325**			**413**	**308**		

Sources: Calculations from the baseline survey and follow-up survey

Notes: Sample sizes vary for individual measures due to missing values.

Two-tailed t-tests were applied to difference between the program and control group outcomes.

Statistical significance levels are indicated as: * = 10 per cent; ** = 5 per cent; *** = 1 per cent.

Chi-squared tests were applied to difference between the respondents and non-respondents program-control differences.

Statistical significance levels are indicated as: + = 10 per cent; ++ = 5 per cent; +++ = 1 per cent.

Selection of regression adjustment variables

The previous two subsections suggest that any observed differences between the program and control groups were likely results of random errors and some very small differences from non-response at the follow-up survey. The difference-in-difference model used for impact estimation accounts for these minor baseline differences. Therefore, it is expected that the impact estimations are not substantially different whether covariates are included to capture outcome variations, though regression adjustment may improve the estimation power. Unless an outcome or the treatment assignment is only correlated with a covariate's extreme value (or an extremely small category), results are not sensitive to the choice of adjustment variables.

The selection of regression adjustment variables was partly theoretical and partly empirical. Since most outcomes were expected to vary across demographics and major job characteristics, it was decided that regression adjustment variables would include 0-1 dummy variables of gender, marital status, broad age groups, marital status, presence of children, post-secondary education, Aboriginal status, immigrant status, language use at home, household income, and long tenure. It was also decided that indicators of higher-than-median physical and mental health scores would be included to capture any variation of outcomes due to physical or mental health.

Since regression adjustment is used to improve the statistical power of impact estimations, any baseline variable that is correlated to the program-control indicator and differential response of the follow-up survey can be used as adjustment variable. However, some of the differences in baseline characteristics between program and control groups or between respondents and non-respondents shown in the previous two subsections could be explained away by other selected regression adjustment variables. Further, inclusion of too many regression adjustment variables can introduce inefficiency. In order to find the additional regression adjustment variables that would contribute to estimation efficiency, multivariable models were used to help identify a reduced set of effective adjustment variables.

The first step of variable selection process included a regression of the follow-up survey response indicator on program group indicator, selected demographic and job characteristics variables, additional baseline survey variables identified to be correlated with the program indicator, and the interactions of the program group indicator and various baseline characteristics. Those interaction terms with statistical significance suggested predictive power of the differential response at the margin, and provided indication of potential additional regression adjustment variables. Similarly, additional regression adjustment variables could be found from statistically significant factors from the regressions of the program group indicator on selected demographic and job characteristics variables, as well as additional baseline survey variables that were correlated with the program indicator, based on the sample of follow-up survey respondents and the full baseline sample. It should be noted that statistical significance were not the only identification criterion since statistical significance vary by

specifications.[21] Each candidate adjustment variable was further analyzed to form a broad categorical or binary variable and to ensure that it was not selected based on partial correlation of extreme values.

Based on the second stage analysis, the list of regression adjustment variables also included indicator variables of formal volunteering, number of organizations volunteered for, quality of work life, access to social network for help with household activities, specialized advice, and job/career, social network proximity, math skills efficacy, and a few selected indicators of various usage of math and language skills. It can be shown that the program-control differences of baseline characteristics of all other variables were not sensitive to the regression adjustment variables selected.

[21] The results of the multivariate analyses are not presented since the estimations were not rigorous tests of validity.

Appendix B: Analysis of the implementation

This appendix provides a summary of the analysis of UPSKILL's implementation, which examined the question of whether the workplace Essential Skills training model received a fair test and program fidelity was maintained. The analysis follows the steps of implementation: engagement and recruitment of employers and employees; administration of organizational needs assessments and employee data collection; understanding of research objectives; recruitment of instructors;[22] the customization and alignment of the curriculum; and program delivery. The appendix ends with a summary of key lessons learned during implementation.

Data sources for implementation analysis: depth interviews (n=58), site observations (n=53),[23] training exit survey results (n=383), and summary notes concerning instructor support provided by the project. The depth interviews were completed by various partners and stakeholders: Tourism Human Resource Organization (THRO)[24] representatives (n=9); SkillPlan (SP), Douglas College Training Group (DCTG), and UPSKILL instructors (n=17); Hotel Directors, General Managers and Human Resource Managers (n=22); and Hotel Department Managers (n=10).

Employer engagement and recruitment

Did service delivery partners follow key procedures in terms of engaging and recruiting hotels?

Service delivery partners responsible for engagement and recruitment followed the engagement model fairly closely and were largely successful in recruiting suitable firms for the study. They contacted hotels, provided information about the project, gathered data for the study, and maintained ongoing contact to ensure questions were answered and project requirements were met. Employers frequently became engaged and saw potential in the type of training offered. UPSKILL representatives initially contacted firms familiar to them with known capacity: those hotels more easily met project requirements. However, due to insufficient numbers, they also recruited other firms unknown to them; in some cases, those firms were less suitable, particularly in terms of size and capacity.

Several problems emerged concerning timeline, availability of curriculum, staff turnover, and capacity of firms to deliver project activities. The length of time between hotel recruitment and the remainder of activities was a challenge for some employers. The project curriculum was still evolving at the start of employer engagement for the initial cohort of firms, and; some service delivery partners would have

22 Several instructors were recruited during early project development and assisted in the initial curriculum customization/ revisions; however, their recruitment is positioned in this chapter following employer and employee recruitment and preceding curriculum customization due to their key role in the curriculum customization that took place as the program unfolded.

23 Site observations included the observation of an employee engagement session, a training session, or an ONA session.

24 In some provinces, the role of the THRO was filled by a provincial coordinator who was not a member of a Tourism Human Resource Organization; however, for the purposes of this review, THRO includes all provincial representatives performing the role of provincial coordinator for the UPSKILL project.

liked to have had more detailed information to share with firms.[25] While service delivery partners indicated that long term hotels with a stable employee base were the most suitable, many of the hotels recruited had a high degree of staff turnover. In addition, the lack of a training culture and the lack of capacity for many firms to schedule activities was challenging. The profile of firms that should be targeted for this type of project was not fully understood at project outset: in general, firms must be open to receiving training and, ideally, have the capacity to schedule the training activities. While training can still be provided for those with lower capacity, it will be more challenging. In those cases, additional services to support growth in training capacity and learning culture would be appropriate, prior to, or alongside Essential Skills training.

Organizational needs assessments (ONAs)

Were ONAs conducted consistently and according to project guidelines?

The ONAs were largely conducted in a similar manner across establishments and according to project guidelines, although the management structure and experience of smaller hotels often varied from larger hotels. Firms appreciated having an outside agency conduct the ONAs; they considered this more effective than an in-house procedure. The easy with which employers could identify their hotel's business needs, employee performance gaps, and employee skill needs varied greatly: most often, employers found at least part of this process quite difficult. Management found the summary report and debrief particularly useful and they generally agreed with the results.

Although the ONA process went smoothly overall, service delivery partners encountered some difficulties engaging appropriate management for the ONA process, and in the length and detail of questions. The most effective way for getting all the required data involved interviewing senior management as well as department managers or supervisors; however, this procedure was not followed at all hotels. While GMs could usually identify business needs and employee performance gaps, it was often department heads who could identify the skills needed.[26] While the participation of both levels of management was requested, availability was often a challenge.

Employee engagement and recruitment

Did service delivery partners follow key procedures in engaging and recruiting employees?

Service delivery partners generally followed guidelines for engaging and recruiting employees for the project: they worked with management from the recruited firms and they delivered employee engagement sessions to employees in the four primary occupational groups.[27] They encouraged

[25] Service delivery partners were provided with an outline of the curriculum but many wanted a higher level of detail; however, it was never the intention of the project to give the curriculum to all employers at the start (i.e. before RA) as this could influence the control group. Hotels were ensured they would receive the curriculum following the training and research activities.

[26] In some hotels, department managers had very little understanding of performance gaps or skills needed.

[27] Additional employees such as bell men and maintenance workers were included at some sites at the request of the employer.

employers to allow all eligible employees to attend the engagement sessions; where this occurred, the majority of those who attended signed up for the project. Once employees had signed up for the project, service delivery partners engaged participants in the project data collection as expected, including the baseline survey, Skills Snapshot (SS), and performance assessment (PA).

Encouragement for all potential participants: While service delivery partners provided encouragement for all employees with potential to participate to attend an engagement session, this did not always occur: some firms were short-staffed and had difficulty maintaining coverage of the work area; employers did not always provide sufficient encouragement to employees to attend, or allow the time to be released from duties; ESL employees may not have fully understood the information provided; the low interest level of some employees may have affected the interest level of other employees; and late recruitment and rushed engagement sessions hindered the inclusion of all employees. Restricting attendance to employees at a mid to high skill Level 2 was not well received by firm management, and project staff made adjustments.[28]

Lack of training culture: Previous to UPSKILL, offering training to frontline employees had been relatively rare at the hotels; this lack of a training culture likely affected the ability of employers to engage the interest of their employees in the UPSKILL training. Some employers found engaging the interest of employees in training relatively easy; others found this more difficult. Some employees were sceptical at the start, leading to only a small portion of employees signing up. The lack of encouragement from some employers may in part have stemmed from insufficient emphasis being placed on this recruitment step at the start of the employee engagement process. An overlapping issue appears to have been the lack of involvement of department heads in the recruitment process at many hotels: recruitment appears to have been more successful where they were directly involved in encouraging employees to participate. Future recruitment will likely improve as steps are taken to normalize training and directly involve department heads or supervisors in the process.

Data collection: Service delivery partners reported it challenging to keep employers and employees engaged in data collection. The length of time to complete the baseline survey and the level of complexity of questions on the survey and the Skills Snapshot were difficult for some, particularly for ESL participants.[29] Overall the performance assessments (PAs) were more complex and involved a much larger time commitment than anticipated. The lack of capacity for firms to adapt easily to scheduling changes made their involvement in data collection difficult, particularly with scheduling PAs.[30]

28 Participants in Level 1 were recruited as were a minority at Level 3 (13 per cent).

29 The Skills Review was provided as an alternative instrument to the Skills Snapshot for lower literacy participants.

30 Service delivery partners who had previously scheduled PAs themselves preferred this method to having CTHRC perform the task centrally: they believe this is a better use of time with fewer communication problems.

Understanding of project objectives

Were project research objectives understood by firm management and employees?

According to interviews with employers and service delivery partners, the firm management teams had a good understanding of the research objectives: specifically, that there would be data collection including surveys and assessments; that the information gathered about the firm and about employees would be kept confidential; and that the firm had a 50/50 chance of being randomly assigned to the group that would receive the UPSKILL training. However, the extent to which employees understood the research objectives was mixed: while confidentiality, voluntary participation, and the 50/50 chance of getting the training were well understood by most participants, there were a few participants who appear to have felt pressure from the employer to participate. While participants understood that there would be surveys and assessments, they often did not fully understand the extent of the surveys and the amount of time that would be involved in completing them; a few participants found some survey questions too personal.

Were project training objectives understood by firm management and employees?

Both management and employees appear to have had a good understanding of some training objectives but not others. They understood that the training involved basic transferable Essential Skills, and that the training would count towards *emerit* certification for employees — although the details of how that would work were not clearly and consistently understood across sites. Employers also understood that the training was designed to help meet business needs. However, the amount and types of training offered were not well understood by either group, specifically that there would be up to 40 hours of training involving group, one-to-one instruction and self-study. Ensuring training particulars are well-understood by all project stakeholders will be important in future implementation.

Recruitment of instructors

Were instructors similarly recruited and adequately prepared to customize and deliver the curriculum?

Service delivery partners were challenged to find staff with the particular combination of skills required for the project: knowledge of the hospitality sector, good facilitation skills and a background in Essential Skills (ES). Instructors were generally well known to their provincial organizations as experienced training instructors with a solid skill set; many were already familiar with training in Essential Skills (ES) or the hospitality industry. While they received training for the project, some instructors would have liked more information on the participant management information system (PMIS) and how to fit occupational groups together.

The qualifications of instructors to customize and deliver the training were for the most part quite strong, though specific skillsets varied. Instructors were well informed of project requirements concerning ES and customizing curriculum; however, many were not as experienced in adapting and customizing ES curriculum. About half of the instructors had a great deal of experience delivering ES

training; the other half had experience with some ES such as computer use, reading text, or numeracy. A few instructors had no direct experience with ES training although they had often worked with mid- to low-literacy learners. Instructors generally had a very flexible and interactive style of delivering training and were adept at engaging learners and adapting their style of delivery to meet learner needs. However, the majority were not familiar with using self-directed activities (SDAs) as part of the curriculum. Many instructors indicated that they were not able to complete much of the customizing of curriculum until after meeting the participants at the start of training,[31] having not been involved in the ONA process during which they would have become more familiar with the business needs of each hotel. They were often not able to benefit from the instructor support offered by the project due to the tight timeline. Future projects could benefit from recruiting instructors with more extensive ES experience and involving them in the ONA process.

Customization and alignment

Did instructors find the curriculum customization process effective?

Instructors found the curriculum customization process largely effective. However, some reported that part of the documentation required for customization was not available (e.g. Skills Snapshot results incomplete), additional customization often needed to take place after training started, and Self-Directed Activities (SDAs) were used minimally.[32] The extent of collaboration between service delivery partners and instructors was small; however, instructors often found the curriculum effective without customization and followed the core curriculum fairly closely.

Instructors most frequently used ONA results and hotel-specific documents to customize for each hotel. They considered the Skills Snapshot (SS) results as moderately effective for identifying ES needs, as the instrument only measured document use and numeracy (although they generally felt it measured those very well). The modified Skills Review was more appropriate for low-literacy and ESL participants but the information was more limited. While instructors recommended the use of ONA, SS, and Performance Assessment results as well as several hotel-specific documents such as a visitor's guide and guest directory, they also indicated that some customizing or adapting of the curriculum must take place after meeting the participants at the start of training and more fully understanding their skill levels. However, adapting the curriculum at this point can result in a hurried process particularly where training occurs in a compact two- or three-day schedule. They also indicated that some "on-the-spot" adaptation ideally occurs during training sessions in response to participant questions or concerns. Shorter training sessions and more time between sessions would help alleviate some challenges in adapting curriculum.

31 This was very difficult when the training was conducted on a very compact 2 or 3 day schedule.

32 Some additional challenges faced by instructors in customizing curriculum included having the time to customize, combining occupational groups within a training session, communication with the hotel, reading and writing activities and in particular document use with ESL participants, and customizing for very low-literacy levels.

Did the curriculum reflect employees' Essential Skills needs and performance goals?

Instructors believed that the curriculum content fit well with general employee performance goals and the ES needs that relate to business objectives. However, most instructors were not involved in the ONA process at the hotels where they were conducting training, and where they would likely have learned more about specific hotel business needs and objectives. Involving instructors in the ONA process may help make curriculum customization more effective.

To what extent were the employee skill needs, performance gaps, and interests aligned?

Many instructors indicated that the curriculum was "very well aligned" with employee skill needs, and both instructors and employers often commented on how engaged and interested employees were with the training. However, some instructors indicated the curriculum was only "moderately well aligned" and believed it would benefit from more numeracy for HRAs and FBSs, more oral communication for HRAs, particularly concerning interaction with guests, and more document use and skimming and scanning in general. Some participants were less enthusiastic about the training, likely due to language difficulties and lack of relevancy for their specific context. More direct focus on addressing these difficulties will benefit future projects.

To what extent was the curriculum aligned with business needs?

The curriculum appears well-aligned with business needs. Hotels consistently identified a variety of business performance gaps during the ONA process that would indicate a need for training in the areas covered by the core curriculum: guest relations; service excellence; productivity; health and safety; and human resources. Employers' goals in getting involved in the project reflected the performance gaps identified during the ONA process: customer service improvement; more attention to detail; employees' understanding the big picture of the hotel; improved inter-department communication; more education and training for employees; improvements regarding language barriers; and better trained, more engaged, and more confident staff.

Senior firm management indicated at the post-training follow-up that the training met many business and skill needs, and several noted they had already seen changes in employee performance in several relevant areas: more attention to detail; staff very professional in behaviour; more confidence in employees; better corporate culture; better team and inter-department communication; improvement in staff morale and confidence; better communication with guests; and better teamwork. Department managers also suggested that the training met business and skills needs of hotels.

The business needs for each hotel appear to have been addressed in the customized curriculum. Instructors followed the core curriculum fairly closely for each occupational group, and frequently supplemented that with hotel-specific documents and information from the ONA.[33] According to instructors, one of the highlights of the HRA curriculum was that HRAs were better able to understand their role in the overall success of the hotel. They also considered the FDA curriculum on upselling particularly useful: they indicated FDAs needed more information and encouragement in this area.

[33] The ONA results often aligned closely with much of the core curriculum.

To what extent did the training meet the business goals of firms?

Employers had positive responses concerning the extent to which the training had met their business goals: they often commented on positive changes but they also recognized that the project training was just a start in meeting overall long term business goals (for example, one employer indicated that the training helped but noted "we have a long ways to go").

Participation and program delivery

Were there four core curricula for ES training, one for each occupational group?

Four core curricula were developed for the project, one for each occupational group. A unique aspect of the UPSKILL curriculum is that training in Essential Skills (ES) is embedded in the technical aspects of the job for specific occupational groups. The curriculum was developed collaboratively by SkillPlan (SP) and the Douglas College Training Group (DCTG).[34] It was developed over a period of several months and incorporated feedback from UPSKILL instructors. Overall, feedback from the stakeholders was very positive concerning the curriculum, although initial delays in the delivery of the curriculum was difficult for those who recruited firms earliest. Having curriculum completed and ready for delivery at project outset would be preferable.

How effective were the instructors overall in their delivery of ES training?

The feedback from service delivery partners, employers and participants overall was very positive concerning the training delivered to employees. Instructors related well to employees; they were flexible, answered questions, and maintained an appropriate level of professionalism. Further, they helped clarify hotel matters when needed, and they assisted employees in becoming engaged in the training. Instructors helped participants to problem-solve some difficult work scenarios during training and in particular worked on communication skills appropriate for speaking with colleagues, guests, and management.[35] Instructors tended to combine styles of training delivery to meet the varied needs of participants and the activities undertaken. While variation in skill level among occupational groups was expected, the degree of variation within occupational groups and the very low literacy level of many participants were not expected.[36] This required additional flexibility and curriculum adaptation from instructors.[37]

34 The curriculum development required familiarity with the ES, with the hospitality and accommodations sectors, and the National Occupational Standards (NOS) used for emerit certification programs for Canadian tourism and hospitality occupations.

35 For example, FDAs were interested in exploring ways to communicate with difficult guests and phrases that are effective in promoting sales; HRAs, particularly ESL participants, were often interested in the appropriate manner and language for interaction with guests.

36 Many participants were at a TOWES Level 1-2 rather than Level 2-3 as expected.

37 For example, instructors indicated that they would find different ways to address all the levels in a group, providing additional time for those at a low skill level to respond or more opportunities during activities as needed.

Participants received basic Essential Skills training as outlined in the curriculum; sufficient resources were in place and instructors followed the curriculum carefully, while making adjustments[38] to fit the learning style and needs of participants and any specific needs or requests from the hotel. However, most of the training was completed as group work with very little one-to-one instruction and very few self-directed activities (SDAs) as originally intended due to employer and employee preference. While service delivery partners and instructors met employer expectations concerning the scheduling and timing of training, they experienced considerable organizational challenges.

What was the employee experience of the training?

The majority of participants appear to have had a good understanding of the training and its relevancy to *emerit* certification. They had supervisory support, and they became engaged in the training, with the level of engagement varying somewhat by occupational group and by the amount of curriculum that was "new" to them.[39] In particular instructors noted that ESL participants, many of whom were HRAs, were often very engaged and appreciative of the professional development and the opportunity to develop English skills. However, instructors often had to modify sections of the FDA curriculum as it was too basic for the participant skill level, and some participants were more difficult to engage likely due to being in the training non-voluntarily. There was mixed response to the scheduling of sessions: full day sessions (7-8 hours), and in particular consecutive full days, were difficult for participants to remain engaged in, and to retain information. Modifications to the FDA curriculum, ensuring voluntary participation, and spreading out the delivery of the training will be important in future implementation.

Overall, participants received a much lower amount of training than originally expected by the project, with most of the training occurring in group sessions. However, even with fewer hours of training, the feedback from participants, instructors, and employers was very positive: the majority believed it had been useful in providing employees with the skills needed to perform better on the job.

Instructors were divided concerning the suitability of participants for a project like UPSKILL. However, even when an instructor considered participants not to be suitable – due to having very low literacy or minimal English language skills, for example – they still believed that participants benefited from ES training.

To what extent were employers, service delivery partners, and instructors satisfied with the training?

The large majority of employers reported being "satisfied" or "very satisfied" with the training and project as a whole. They found the training highly relevant and useful[40] and would recommend the training to others. However, they also had concerns about the large number of agencies involved in the

38 At times, instructors simplified activities, used more oral activity rather than written, focused on activities that allowed participants to move about the room more frequently (particularly important for HRAs and FBSs), limited role-playing activities for some groups, timed group activities carefully, and in general maintained an appropriate level of flexibility.

39 According to instructors, HRAs and FDAs were often more engaged than FBSs and LICs.

40 In particular, they noted the group activities, safety procedures and confidence building.

project, the long timeline for the project, and the challenge posed by delivering training during high occupancy periods.

Service delivery partners were "fairly satisfied" to "very satisfied" with the training and the project. At the same time, they were concerned regarding the amount of data collection required, the need for more training time, and the delays in the availability of the curriculum. Instructors varied greatly in their level of satisfaction with the training and project as a whole, from "fairly" to "very" satisfied. They indicated that the curriculum would benefit from adaptations to be more suitable for ESL learners, having more focus on goal setting, and ensuring that the training is delivered in smaller "chunks of time" to improve delivery and retention. Incorporating these adaptations will be useful for future implementation.

Lessons learned

What are the key lessons learned from the program implementation?

Employer recruitment: Service delivery partners were largely successful in recruiting appropriate firms in terms of their size and capacity. Problems emerged concerning the delayed availability of the curriculum, high staff turnover, and the lack of capacity of some firms to deliver on project activities. Firms targeted for training must be open to receiving training and have the capacity to schedule the training activities.

Organizational needs assessments: the implementation of ONAs was largely successful: firms appreciated the involvement of an outside agency and found the summary report and debrief useful. However, it was difficult for some firms to identify all the performance gaps and skill needs: the involvement of senior management as well as department managers or supervisors was essential.

Employee recruitment: Service delivery partners generally followed project guidelines with employee recruitment. However, not all firms were proactive in encouraging all potential participants to receive project information, and the lack of a training culture often made it difficult to engage the interest of employees. Data collection was sometimes difficult to complete: the baseline survey and Skills Snapshot (SS) were complex instruments and it was often a challenge for lower-literacy and ESL employees to complete them. There were many scheduling difficulties with the performance assessments (PAs).

Understanding research objectives: Firm management teams had a good understanding of the research objectives concerning data collection, confidentiality, and the 50/50 chance of being chosen for the training. Employee understanding was also high but mixed on some key parameters of the study including the scope of the surveys and time involved.

Understanding training objectives: Firm management and employees understood that the training involved basic transferable Essential Skills and could contribute towards *emerit* certification; however, neither group fully understood the amount and types of training involved.

Instructor recruitment: The ES qualifications of instructors varied considerably, with about half being very experienced in ES delivery and a few with very little experience with ES; their ability to adapt ES curriculum also varied. However, the instructors had a very flexible and interactive style of delivery that worked well.

Core curriculum: Four core curricula (one for each occupational group) were developed for the project by SkillPlan (SP) and the Douglas College Training Group (DCTG). Feedback on the curriculum was positive, though the initial delay in its availability was a challenge.

Curriculum customization: Instructors found customization largely effective. They most frequently used ONA results and hotel-specific documents to customize it and did most of the adaptation after meeting participants. Some instructors would have liked more involvement in the ONA process to better understand hotel needs and employee performance gaps and skills needed. However, instructors even found the curriculum effective without customization.

Curriculum alignment: The curriculum appears well-aligned overall with employee skill needs and interests, with some areas requiring extra emphasis: more numeracy (HRAs/ FBSs), more oral communication (HRAs), and more document use and skimming and scanning in general. The curriculum appears well-aligned with business needs, and the curriculum and training are a start to meeting long-term business goals.

Preferred training schedule: While instructors met employer expectations regarding the scheduling of training (including some very compact two-day training sessions), their preferred training schedule was two to four hours per week conducted in consecutive weeks. This fit well with participant ability to absorb information in a classroom setting and allowed participants time to practice on the job what they had learned.[41]

PMIS: The PMIS provided good capture of participant data for research purposes, and the entry of information into PMIS was relatively straightforward for instructors. However, instructors largely used the PMIS to enter completed training activities and did not use it additionally for planning and scheduling purposes as was originally intended.

Lack of capacity of firms and their lack of experience with training: Some firms lacked the capacity to be flexible in their scheduling of research activities including both data collection and training. They did not anticipate the amount of effort and flexibility required. The lack of a learning culture among some firms made it difficult for the partners to align project needs with individual firm capabilities and understandings.

Pre and post data collection instruments: While service delivery partners were provided with information to give to employers regarding the employee survey, Skills Snapshot (SS), and performance assessments (PAs), the amount of time to coordinate the delivery of the PAs was not understood by Service delivery partners; firms did not anticipate the extent of scheduling requirements.

Lower amount of training than expected: While the overall amount of training time was lower than anticipated, feedback from instructors and employers suggests that the lower amount of training still

41 Limiting a session to two to four hours worked well for employees who are used to continuous movement in their work day (such as HRAs and FBSs); it also benefited employees with limited English usage who found a full day of training in English overwhelming. This time frame also allowed instructors to do additional customizing of the curriculum after meeting participants to meet their particular needs.

had a significant effect. Extensive customization of the curriculum was not expected nor required as the curriculum had been very carefully designed and reviewed.

Self-Directed Activities (SDAs): Most of the training was completed in group work with very little one-to-one instruction or use of SDAs, primarily due to employer and employee preference.[42]

Building the engagement of employers into program delivery: The project did not provide an explicit model for instructors in engage supervisors in training. While they were strongly encouraged to do so in an effort to maximize transfer of learning, this wasn't always possible given business constraints. Simply encouraging instructors to work with managers and supervisors is often an insufficient model to respond to workplace constraints. There was also no specific training for supervisors in how to support learning transfer. Building in a mechanism to engage supervisors to maximize transfer of learning (and/or training supervisors how to do it) would likely improve learning transfer considerably.

Conclusions on program fidelity

The UPSKILL program appears to have received a "fair test". Participants understood the offer and program fidelity was sufficiently maintained. Service delivery partners were largely able to coordinate delivery of the program as outlined, so that the implementation met basic project requirements and guidelines. They worked with employers, instructors and employees to complete engagement, recruitment, data collection, curriculum customization, and training delivery. The primary challenges were engaging sufficient numbers of firms to meet the research needs, maintaining the cooperation of firms throughout the full extent of program delivery and data collection, scheduling training to meet both employer and project needs, and the general lack of a training culture in some firms that would help facilitate implementation of a program like UPSKILL. Overall, the training program received a largely positive review by project stakeholders. The project provides important lessons learned for implementing other ES training in the workplace.

[42] Individual learning plans (ILPs) were not intended for all participants; the project relied on the expertise of instructors to know when one-to-one instruction was needed.

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