Measures of Success:

Workplace Literacy and Essential Skills Initiatives

Research Framework

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1. INTRODUCTION

1.1 Purpose of this Report

This report describes an evaluation framework for the *Measures of Success* project to measure the outcomes of literacy and essential skills (LES) training in the workplace. The report provides a broad framework of possible program outcomes of LES trainingand related factors of interest. It is expected that the *Measures of Success* project will use standardized tools to measure some outcomes and factors, while other outcomes and factors may simply be taken into account. The outcomes and related factors that are ultimately measured will be decided upon by the project‟s Steering Committee.

1.2 Background

The overall goal of the *Measures of Success: Workplace Literacy and Essential Skills Initiatives* project is to develop an evaluation model to measure the long-term outcomes of workplace Literacy and Essential Skills (LES) programs in Manitoba and Nova Scotia. Funded by Human Resources and Skills Development Canada‟s (HRSDC) Office of Literacy and Essential Skills, the project is managed by the Centre for Literacy of Québec in partnership with Workplace Education Manitoba and the Nova Scotia Department of Labour and Advanced Education. The project will look at measuring outcomes beyond the end-point of the learning initiatives and will build on an evidence-based model developed in New Zealand that integrates qualitative and quantitative measures.

SRDC will develop and implement an evaluation model to evaluate the long-term outcomes (after 6-months) of workplace education programs, including programs that have been offered over a number of years and programs offered for the first time. The research project will explore how employees in the workplace education programs: a) use and practice the essential skills acquired through these programs; and b) the changes in their lives at work, in their families, in their unions, and their communities.

1.3 Research Questions

The *Measures of Success* project‟s research questions are:

1. What are the long-term outcomes (after 6 months) of workplace LES initiatives in Manitoba and Nova Scotia on the participants, workplaces, and companies?
2. What is a valid and reliable model for evaluating long-term outcomes of workplace LES initiatives?
3. What are effective and efficient ways to provide workplace LES initiatives to maximize positive long-term outcomes?

2. LOGIC MODEL FOR LES WORKPLACE TRAINING

A *logic model* describes logical linkages among program resources, activities, and outcomes. It is a narrative or graphical depiction of a *theory of change*. In order to create a credible evaluation model, is it important to develop a *theory of change* that can describe in specific terms how workplace LES training may lead to various outcomes for workers and firms. A theory of change communicates the underlying assumptions upon which an activity is expected to lead to a specific result. It clarifies how the change process will unfold, and places attention on the intermediate changes that need to occur in order for long-term outcomes to be reached. By illuminating the "mini-steps" that must occur to achieve long-term outcomes, as well as the connections between program activities and outcomes that occur each step of the way, a theory of change can strengthen evaluation, and observed outcomes can be more credibly attributed to the program.[1]

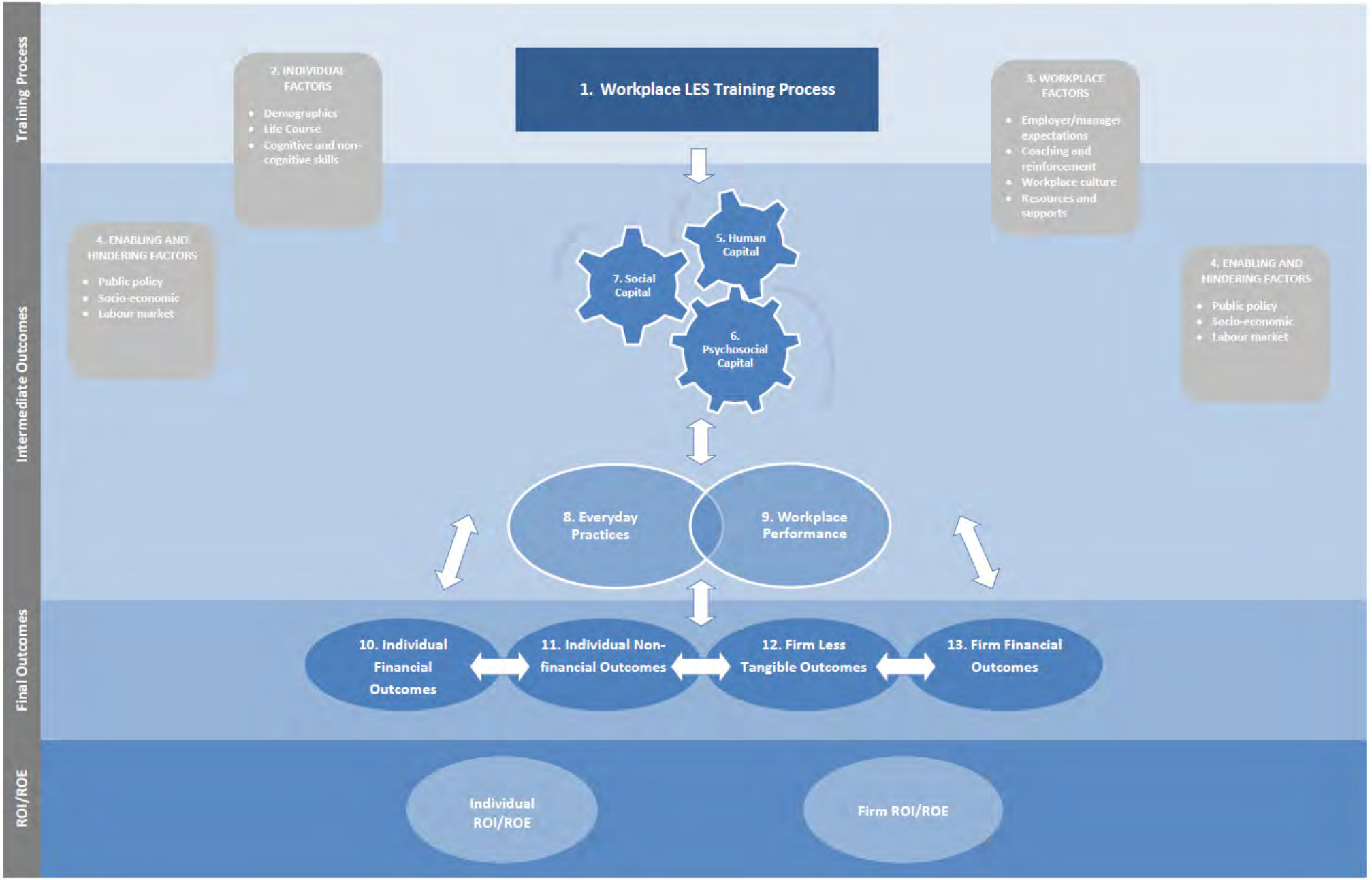
Figure 1 depicts a logic model for literacy and essential skills (LES) training in the workplace. Each component of the logic model (except ROI and ROE) is numbered, and corresponds to a table in the Appendix that lists the specific outcomes, indicators and measures for consideration as part of the project evaluation framework. The logic model is based on a theory of change that was developed as a result of a review of the adult learning literature, a review of a sample of Organizational Needs Assessments (ONAs) from each province and a review of the *Measures of Success* background report. It includes the range of possible outcomes of LES training, supported by evidence of varying degrees of quality. Some outcomes may be pervasive and of a great magnitude, while others may be less common with small magnitude. It is to the responsibility of the Steering Committee to decide which outcomes the *Measures of Success* project will explore and measure.

The diagram is to be viewed top-down. The theory of change begins with the learning process and moves towards long-term outcomes, and ultimately return on investment (ROI) and return on expectations (ROE). Between the learning process and the long-term outcomes of the program are intermediate outcomes. Intermediate outcomes are hypothesized to *mediate* the relationship between the workplace LES training process and the long-term financial and non-financial outcomes that individuals, firms, and governments care about. Surrounding the model are some of the contextual factors that must be considered when capturing outcomes of adult learning. These factors may affect outcomes at each stage in the process.

The section below describes our preliminary theory of change depicted by the model. For each component, there is a discussion of its meaning, the research underlying its presence in the model, and questions that may still remain about the component in the context of the workplace.

[1] See James P. Connell, *New Approaches to Evaluating Community Initiatives. Concepts, Methods, and Contexts. Roundtable on Comprehensive Community Initiatives for Children and Families,* 1995, for more information on the theory of change approach to evaluation.

Figure 1 – A logic model for estimating outcomes and returns to LES training in the workplace



2.1 The Training Process

The theory of change depicted by this logic model begins with the LES training process. This component of the model refers to the characteristics of the training activity, the resources employed to provide the training, and the participants‟ engagement in and reaction to the training activity. According to the literature, the following features are important characteristics of the training activity:

- Type of skill being taught
- Business alignment
- Match to learner needs and goals
- Program design and delivery (adherence to instructional design and learning principles).
- Duration and intensity of the training
- Instructor

The sections below discuss these training factors in further depth.

a) Type of skills training

According to the literature, some essential skills (e.g. some aspects of mathematics) are likely to be more discrete and can be taught more readily than others (e.g. poor English pronunciation that is strongly established) and can therefore be more readily transferred (Benseman, 2010). Therefore, the type of skill being taught may affect the magnitude of the skills gains resulting from the training in a given period. In the context of the *Measures of Success* project, our review of the ONAs found oral communication skills, thinking skills such as problem-solving and decision-making skills, skills related to working with others, and to a lesser extent, computer skills to be the most common Essential Skills requiring development to deal with performance problems. Consultations with provincial training coordinators pointed to document use, oral communication, working with others, computer use, and to a lesser extent numeracy as the most important skills to focus on in the *Measures of Success* project.

b) Business Alignment

Business alignment refers to the extent to which the learning objectives of the training program support the business and performance needs of the organization as identified in the ONAs. As Robinson and Robinson (2008) explain, performance needs are the on-the-job accomplishments and behaviours that are required of employees in order to contribute to the achievement of the business goals. Performance needs identify what individuals must do more, better, or differently if the business goals are to be achieved. There is a broad consensus among training and development theorists and expert practitioners that the most important activity required to generate a positive return on investment from a performance intervention is to ensure that the intervention is *aligned to the business needs of the organization*. This was a major finding of the recent Investing in People project conducted by the Canadian Society for Training and Development (CSTD, 2010) and funded by HRSDC. By systematically seeking information about the root causes of a problem and the interrelationships among the contributing factors, it ensures that the training will be aligned with the business needs of the firm, and that the training intervention does not try to solve performance problems that are not related to skills gaps. As Robinson and Robinson (2008) point out, if a skills gap is not the cause of the performance gap, training to improve skills will not help to close the gap and may even result in negative return on expectations and investment.

For *Measures of Success*, key business needs as identified in ONAs include: improved customer service and customer/client relations, and increased productivity. A next step is to articulate in behavioural terms what workers should do in order to contribute to stated business needs. This means that employers/managers must be able to provide specific examples of current and desired workplace practices that will contribute to business goals. See

Appendix B for a proposed worksheet for employers that may be used in the ONA process to gather information on business alignment.

c) Match to Learner Needs

The training should also match the skills needs of its participants. This means that the training should only be delivered to workers with the performance gap. This increases the likelihood that the skills training will actually improve firm performance.

d) Instructional Design and Delivery

The literature indicates that instructional design is a key input to effective training. Instructional design is the practice of maximizing the effectiveness, efficiency and appeal of instruction and other learning experiences. The literature suggests that the instructional design process should be informed by the results of a training needs analysis. Once the training needs are determined, the end goals of instruction should be identified and should be tied to desired performance, making explicit how training will close the performance gap (Mager, 1984). The training must then be designed, structured, and delivered to the right audience, at the right time. The *Measures of Success* background report highlights the importance of contextualized learning; that is, instruction based on the learners‟ actual work context and tasks. This may require instructors using the actual materials that learners use on the job. Other qualities of effective workplace training programs identified in the background report include: flexible, customized delivery models; supports for learners, providers and instructors (e.g. information, financial/resource/technical support, organizational encouragement, celebration of achievements, follow-up services, respect for anonymity, confidentiality and cultural differences); and quality control.

d) Duration and Intensity

Some studies suggest that the duration and intensity of the training activity are important factors that may shape outcomes. Duration refers to the amount of the training activity, and can be measured in terms of total hours, weeks, months, etc. Intensity refers to the amount of training in a particular amount of time, and can be measured in terms of hours per week/month, days per month, etc. Some studies assume that more training results in more positive (i.e. better) outcomes, but this may not necessarily be the case. In fact, there is very little evidence around the appropriate amount and intensity of training and it likely depends on a number of factors.

e) Instructor

The literature suggests that the instructor has a central role in the process (Benseman, 2010). If an instructor gets to know staff and workplace processes well, he or she can ensure a constant fit between the teaching content, the learner‟s needs and the company‟s aims. Moreover, the instructor can provide feedback on the learners‟ progress in the course to supervisors on the one hand and gain feedback on job demands/issues on the other if he/she is a close liaison with the participants‟ supervisors. If on-site for much of the working week, it is possible for the instructor to have a proactive influence on the transfer process. The teaching ability of the instructor may also be important. Manitoba and Nova Scotia each have their process and quality standards for selecting training instructors.

2.2 Program Outcomes

Program outcomes are the level of relevant skills, behaviours, and/or characteristics measured following a training activity, such as a literacy score, self-confidence, earnings, or participation in workplace/everyday activities. Program outcomes may occur for individuals, groups, families, households, organizations, firms, or communities as a result of the program. Outcomes may be intended or unintended, positive or negative. In the *Measures of Success* project, we focus primarily on outcomes that occur for individual learners and participating firms.

Outcomes can be further divided into two categories: *intermediate outcomes* and *long-term outcomes*. Along with each phase of outcomes are a host of potential *mediating* and *moderating factors*. *Mediating factors* explain how or why a relationship may exist between an independent and dependent variable. For example, workplace factors such as incentives, clarity of roles and expectations, and whether there is coaching and reinforcement may mediate the relationship between training and associated outcomes since they explain how workers apply what they have gained from training to the job.

Moderating factors specify the conditions under which an independent variable exerts its influence on a dependent variable. A moderator may reduce or enhance the direction of the relationship between a predictor variable and a dependent variable, or it may even change the direction of the relationship between the two variables from positive to negative or vice versa. Individual characteristics such as gender, age, initial skill level, and attitude toward learning are examples of moderating factors because they can affect whether the training results in positive or negative, and weak or strong outcomes.

A key point is that the training intervention is only one part of a larger system where other factors play a role in influencing worker behaviour, performance, and business outcomes, which is an important consideration when measuring the benefits to training.

a) Intermediate Outcomes

Immediate outcomes are the changes in the level of relevant skills, behaviours, and/or characteristics that are not of value in themselves, but are valued only because they support the attainment of the long-term outcomes of interest. Chronologically, we might expect these outcomes to occur either during, immediately after or shortly after the program. Based on a review of the literature, workplace training is hypothesized to lead to intermediate outcomes related to human capital (increased knowledge and skill level), social capital (increased network size and improvement in network quality), psychosocial outcomes (such as changes in self-esteem and self-confidence), as well as practices and behaviours . Some of these outcomes may also be mutually reinforcing. For instance, the literature proposes the possibility of a mutually reinforcing relationship between human capital, psychosocial capital and social capital. The logic model also includes two sets of overlapping intermediate outcomes: workplace performance and practices that individuals engage in their everyday lives. The two sets of outcomes are depicted as overlapping to illustrate an ambiguous delineation between learners‟ personal and workplace practices and behaviours.

The relationship between workplace LES training and these intermediate outcomes may be mediated by a host of individual factors such as learners‟ engagement with the learning activity (e.g. attendance, active participation, completion of learning tasks), and workplace factors such as management expectations (e.g. awareness, intentionality, engagement) related to the training intervention. Moderating factors include such things as: individual characteristics (e.g. age, gender, initial skill level, attitude to learning); the socioeconomic context; the policy, program and institutional environment, and the workplace culture. This section further describes each of the types of intermediate outcomes that might occur from LES training in the workplace.

Human Capital

Human capital is the stock of knowledge and skill that an individual possesses as a result of education, training, and experience. It is the most anticipated outcome of training since training is usually implemented with the intention of enhancing knowledge and skill. While most of the literature on employer outcomes of LES training is anecdotal in nature and largely fails to investigate actual outcomes such as skills gained or evidence of the specific factors that may have led to it (Kuji-Shikatani and Zori, 2007; Bergman, 2009), there is some indirect evidence in the literature that workplace LES training leads to increases in human capital. For instance, Kuji-Shikatani and Zori (2007) conducted a review of two major Canadian studies on employers‟ perceptions of the returns to workplace LES training (Long, 1997; Bloom, Burrows, Lafleur and Squires, 1997) and found that improvements in workers‟ document use, communication, and problem solving skills were a common perception among employers.

Social Capital

We define *social capital* using a social network approach, which emphasizes network characteristics that are measurable and possibly influenced by programs. This definition distinguishes social capital from activities to which it may be related, such as volunteering and civic engagement. Social capital outcomes can be separated into two distinct categories of social capital: *bridging and linking social capital*, and *bonding social capital*. *Bonding social capital* refers to relatively homogenous networks connected primarily by close or strong ties. In contrast, *bridging social* capital refers to networks that include important connections with those unlike ourselves, usually characterized by distant or weak ties. Weak ties that include vertical linkages with persons of higher socio-economic status or in position of power and influence are referred to as *linking social capital* (Gyarmati et al., 2008).

The adult learning literature points to the development of bridging social capital as a key *intermediate* outcome of adult learning that may play an intervening role in the realization of several socio-economic long-term outcomes. Social capital as an intermediate outcome of training may occur as a result of participation in isolation of any possible skills gains, or it may be a co-requisite for skills gains (Balatti et al., 2006). According to Balatti et al. (2006), the network of fellow learners, instructors and other staff is key to the learning experience and contributes significantly to the social capital outcomes experienced by participants. The authors report that the interaction that occurs in these networks may produce the resources (knowledge, skills, attitudes and beliefs) that led to other outcomes, such as literacy and numeracy skills, interpersonal skills, as well as confidence and esteem.

However, much of the LES literature is based on training that is conducted in colleges or community-based organizations rather than in the workplace. A key question is whether social capital plays a similar role in a workplace context, where all participants are employed and may already be acquainted with one another. Advocates of the social capital approach argue that workplace LES education can help learners develop skills needed for work, as well as the ability to build social relationships and networks based on trust and shared values, contributing ultimately to community well-being and democracy, social equity and justice. This seems to suggest that in addition to bridging, bonding social capital may also be an intermediate outcome of workplace training.

Psychosocial Capital: Self-Esteem and Self-Confidence

Definitions of *self-esteem* vary, but the general theme in the literature is that it is related to feelings of worth and competence (Mruk, 1999, cited in Eldred et al., 2004). A person‟s level of self-esteem is related to both their sense of worth and what they feel they are capable of doing or achieving. Eldred et al. (2004) define self-esteem as being able to acknowledge one‟s positive and negative aspects and strengths and weaknesses, and still feel good about oneself. *Self-confidence* is generally defined as the belief in one‟s own abilities to do something in a specific situation (Eldred et al., 2004).

Several studies in the adult learning literature generally and the workplace LES training literature specifically report that adult learning leads to improved self-esteem and self-confidence. For instance, Hollenbeck (1992) studied workplace education programs in small and medium-sized firms in Michigan (US) and found that the most commonly reported employee outcomes were self-confidence and increased communication skills. Long (1997) and

Bloom et al. (1997) reported that workers were more confident and had a better attitude toward their work. A recent study on the impact of workplace LES programs in small and medium-sized enterprises (SMEs) in Nova Scotia (Praxis 2008) found that employers identified improvements in self-confidence and self-esteem as among the direct benefits to the company of the workplace LES training programs they had offered.

Some studies suggest that self-confidence and self-esteem may be related to other outcomes such as further learning, involvement in children"s learning, accessing goods and services, some health practices, and involvement in community life. There is little research on whether self-confidence is related to workplace outcomes as well.

Everyday Practices

The literature on workplace training is quite sparse in relation to outcomes that occur for learners outside of the workplace context. To identify potential outcomes that may occur in the everyday lives of learners, we therefore looked at the broader adult learning literature, which identifies several types of changes in the everyday practices and behaviours of adult learners. Key outcomes reported include:

- A commitment to learning, in the form of participating in further learning or children"s learning;
- Social inclusion and cohesion, in the form of increased bonding with family and friends or coworkers, trust, volunteering and civic engagement; and
- Health practices.

Whether training leads to changes in everyday practices may depend on a variety of factors including the extent to which the worker was engaged with the training activity. Other relevant factors may include: individual characteristics; the socioeconomic context; the policy, program and institutional context; and whether the learner is/was engaged in another learning activity around the same time as the learning activity in question.

The following sections define and describe the evidence in the literature on the potential changes in everyday practices that individuals may engage in outside of the workplace as a result of training.

Commitment to Further Learning

A number of studies consider the effects of adult learning on learners" commitment to education and training. This commitment is conceptualized both as the decision to engage in *further learning*, as well as learners" *involvement with their children's learning* (Bossort et al. 1994; Balatti and Falk 2002; Metcalf and Meadows 2009; Maclachlan et al. 2009), Several studies report that learners intended and/or had enrolled in further learning as a result of participation in adult learning (see for example Metcalf and Meadows, 2009). A number of studies also report a relationship between adult learning and learners" involvement in their children"s learning (Bossort et al. 1994; McDonald and Scollay 2009; Maclachlan et al. 2009). These studies raise the possibility that workplace LES training may lead to increased uptake of technical training, such as industry training and certification programs.

Social Cohesion and Inclusion

Several studies in the adult learning literature report that adult learning had a positive effect on various indicators of social inclusion and cohesion. For instance, a number of studies reported changes in relationships with family members and colleagues. This outcome may be related to other outcomes such as skills gains and improved self-confidence. For example, Eldred et al. (2004) reported a case in which increased self-confidence had a positive impact on participants" relationships with their children by equipping them to offer more practical support for their children"s learning. Some employed learners reported enhanced relationships with colleagues as a result of increased confidence gained from adult learning programs. However, most of the literature did not study workplace training programs, but rather examined outcomes related to college- and community-based programs. We are not certain about the extent to which such outcomes can occur as a result of workplace LES programs.

Participation in adult learning was also reported to have a positive relationship with indicators of social inclusion, such as *volunteering* and *civic participation* (Bossort et al. 1994; Feinstein et al. 2003; Eldred et al. 2004; Lefebvre et al. 2006; Bingman 2009; Maclachlan et al. 2009). For example, Feinstein et al. (2003) report modest but statistically significant increases in the civic memberships of adult learners. Although this increase was largely driven by participation in leisure courses, participation in work-related training also had a statistically significant effect.

Some studies in the adult learning literature also report empathic listening as an outcome of training. *Empathic listening* is a way of listening and responding to another person that improves mutual understanding and trust. It enables the listener to receive and accurately interpret the speaker's message, and then provide an appropriate response. The response is an integral part of the listening process and can be critical to the success of a negotiation or mediation. Among its benefits, empathic listening can build trust respect, encourages the surfacing of information, and creates a safe environment that is conducive to collaborative problem-solving. Lefebvre et al. (2006) found that almost one-third of learners reported changes in the way they listened. Learners associated these changes with a better mutual understanding of points of view and openness to consider shifting one‟s stance. Learners also spoke about the cultural diversity within their programs, relating learning in a diverse cultural setting with a shift to a more open-minded perspective towards other cultures. Whether training encourages empathic listening or other forms of social inclusion or cohesion may depend on program-related factors such as the type of skill being taught as well as the design and delivery features of the instruction. For instance, training to develop teamwork or oral communication skills may also teach empathic listening, and may entail more group discussion than other types of training such as document use or computer skills.

Health Practices

Adult learning is reported to have a generally positive effect on *health practices*, such as giving up smoking, engaging in more exercise, and more involvement in one‟s own healthcare (Feinstein et al. 2003; Balatti et al. 2006; Lefebvre et al. 2006). Interestingly, Feinstein et al. (2003) found that on average, taking work-related and leisure courses has an effect on a much broader range of health outcomes than taking academic or vocational courses leading to accreditation. If this is also the case for training in the workplace, improvements in health practices among workers could potentially be associated with improved performance on the job, as well as less absenteeism due to illness.

Workplace Performance

The literature on workplace LES training reports several workplace practices and behaviours as training outcomes. Our review of the literature and the *Measures of Success* background report identifies a variety of positive changes in workplace practices and behaviours associated with workplace LES programs. For example, workers:

- Demonstrated a commitment to learning in that they were more receptive to further workplace training, enabling them to learn more complex skills, and to learn skills more quickly;
- Improved their „soft skills‟ such as communication and problem solving skills;
- Improved their „hard skills‟ such as document use;
- Were more able to cope with change and adapt to new processes or products;
- Performed better in teams and were more willing to contribute in meaningful ways; and
- Were better able to follow instructions, made fewer errors, worked faster; and were able to troubleshoot and identify solutions.

Workplace training was also reported to positively affect indicators of inclusion and cohesion in the workplace (e.g. Praxis, 2008; Salomon, 2010). For instance, employers reported:

- Increased morale;
- Job satisfaction; and
- Increased engagement and initiative.

Changes in worker practices and performance may be related to other outcomes of training such as skills gains, improved self-confidence and social capital. For example, the Praxis study (2008) reported that employers viewed the improved attitude and behaviour of their employees as translating into "significant changes in the workplace as a social environment…that provided the basis for downstream outcomes" (2008; cited in Centre for Literacy 2010, p. 17). The literature also highlights a host of factors that mediate the relationship between the immediate outcomes of training and workplace performance, such as: the clarity of roles and expectations of staff; incentives; work systems and processes; workers' access to information, people, tools and job aids; and coaching and reinforcement. According to the literature, the absence of performance support is often the greatest block to exemplary work performance. For instance, CSTD's Investing in People Project (2010) identified a lack of time or other job priorities as preventing the participants from reinforcing or consolidating the new learning, resulting in little to no change in job performance.

A key question is how do learners take their newly acquired skills back into their jobs and apply them. In other words, we would like to know more about the causal pathway behind the transfer of learning to the workplace.

b) Long-term Outcomes

Long-term outcomes are outcomes that may take longer to occur than intermediate outcomes, but are the outcomes that individuals, firms and society ultimately care about. In the case of workplace training, long-term outcomes can accrue to both employers and individual learners, and outcomes may be financial and non-financial, and more or less tangible. Individual and firm outcomes may also be interrelated and in some cases mutually reinforcing. Factors that may moderate the relationship between intermediate and long-term outcomes for individual learners and their families include such things as: individual life circumstances; the socioeconomic context; and the policy, program and institutional environment. For firm outcomes, external factors like market conditions as well as the social, political, policy, and institutional context may moderate the relationship between changes in workplace performance and firm outcomes. The following sections define potential long-term outcomes for individuals and firms and describe the supporting evidence from the literature.

Individual non-financial outcomes

An *individual non-financial outcome* is defined here as the outcomes that are experienced by an individual worker or their family that do not directly affect one's wealth or income, such as improved individual or family health, and improved relations with family, friends, and colleagues. As previously stated, studies on the outcomes that may occur outside of the workplace as a result of workplace training are few in number. However, the broader adult learning literature identifies several non-market outcomes of adult learning programs, including increased access to services, increased life satisfaction, improved health, and improved relationships with family, friends and coworkers.

Increased access to goods and services

Some studies in the adult learning literature report accessibility of goods and services as an outcome of LES training. *Accessibility* is defined here as the absence of non-financial barriers that prevent an individual from using a good or service or that inhibit informed decision-making related to goods and services. Some studies use the term *command over goods and services*, which is adopted from the OECD 1982 list of areas of social concern, to describe

this outcome. However, the term *accessibility* is preferred here instead because the OECD term is often used to refer to market-related factors such as purchasing power and cost of living.

Changes in accessibility are conceptualized as related to both skills gains and improved self-confidence. For instance, Lefebvre et al. (2006) found that some learners indicated that they were more confident when shopping and handling money or had increased ability to participate in leisure activities, such as reading to their children and grandchildren. Learners also reported progress in their work context such as completing time cards and reading work reports.

Improved health and well-being

The adult learning literature exploring health outcomes focuses mainly on mental health and well-being, and the findings are generally mixed. For example, Lefebvre et al. (2006) found that participants experienced health benefits such as feeling less stressed, although the prevalence of this outcome is not indicated and no direct examples are provided. Feinstein et al. (2003) reported that participating in adult learning between the ages of 33 and 42 was associated with a 35 percent increase in life satisfaction and that on average, taking work-related courses has an effect on a much broader range of health outcomes than taking academic or vocational courses, although why this is the case was not explored in the study. In contrast, Balatti et al. (2006) reported that only 3 percent of reported socioeconomic outcomes related to health.

The logic model suggests that an increase in health practices as an intermediate outcome of training may lead to improved health status. However, how long this process might take is unknown and likely depends on a number of other factors.

Improved relationships with family, friends and coworkers

Some studies report improved relationships with family, friends and colleagues as an outcome of adult learning. For example, Bossort et al.‟s BC study (1994), reported that learners experienced a variety of social and psychological outcomes of adult learning, including improved relationships with family and friends. Some studies suggest that improved relationships result from intermediate changes in other outcomes. For instance, Eldred et al. (2004) found that increased confidence allowed learners to offer more practical support for their children‟s learning, which in turn lead to positive effects on their relationships with their children.

Individual financial outcomes

Individual financial outcomes refer to long-term outcomes that affect an individual‟s wealth or income. Potential financial benefits for workers reported in the literature include better job quality (such as a safer workplace), career advancement and higher wages. „Soft‟ outcomes such as increased job satisfaction are also commonly cited in the case study literature. A study by Krueger and Rouse (1994, 1998) on workplace literacy training in both a manufacturing company and a service company reported small effects on financial outcomes, although they note the follow-up period was quite short. The study reported average earnings increases of 0.5 percent, and that program participants in the manufacturing firm experienced significant earnings growth compared to non-participants. A further finding was that learners at the manufacturing company were seven percent more likely to be promoted in the follow up period. There was also some evidence that learners at the service company were more frequently nominated for or won a performance award compared to non-trainees. In his analysis of data from two large, nationally representative surveys, Hollenbeck (1992) reported marginal impacts of 11 to17 percent increases in earnings.

It is worth noting that most studies of community-based LES programs find that literacy and basic skills training is not enough on its own to significantly increase employability and boost wages (Metcalf and Meadows, 2009). A key question is whether LES training in the context of the workplace strengthens the association between skills gains and financial outcomes such as higher earnings and career advancement.

Financial outcomes for firms

In the logic model, changes in workplace practices and performance are presumed to lead to both tangible and less tangible financial outcomes in the firm. Among the tangible financial outcomes that may arise (i.e. those that directly affect a firm‟s profits and equity) as a result of training are increased productivity, increased sales, cost control, improved product quality, improved customer service, worker retention, reduced absenteeism, and improved health and safety. Assuming that training is aligned to business needs and targets skills gaps causing the firm‟s performance gaps, firms should experience positive market outcomes associated with the business needs identified in the organizational needs analysis (other factors held constant).

There is evidence in the literature that workplace training may lead to improved tangible financial outcomes for firms. For instance, Hollenbeck and Timmeney (2009) found that employers and workers reported frequent productivity gains. Kuji-Shikatani and Zori (2007) also identify the following outcomes for firms: reduced absenteeism; improved productivity; improved health and safety; and easier recruitment and retaining of workers, with some companies having turnover rates much lower than the industry norms.

Less tangible outcomes for firms

Firms may also experience less tangible outcomes that cannot be easily quantified or monetized. Less tangible firm outcomes may include such things as improved workplace morale, social inclusion, improved manager-worker relations/trust, and a culture of learning. These outcomes do not directly affect a firm‟s income or equity, but may have an indirect effect. There is some evidence in the literature that these outcomes actually occur. For instance, a recent US study by Hollenbeck and Timmeney (2009) found that employers and workers reported significant morale gains. Based on a review of two survey-based Canadian studies Long, 1997; Bloom et al., 1997) and other North American literature, Kuji-Shikatani and Zori (2007) identified improved labour-management relations as an outcome of workplace LES training. Improved worker-union and worker-management relations were also outcomes reported in evaluations of Nova Scotia‟s Workplace Education Initiative (WEI) (Kelly, 1999, and CCS, 2005; cited in Centre for Literacy, 2010). A 2006 survey of Canadian businesses (Plett 2007; cited in Centre for Literacy, 2010) found that employers valued how their programs enhanced workers‟ lives, personally and at work, and thereby contributed to a culture of lifelong learning in the workplace.

2.3 Return on Investment

The return on investment (ROI) of training refers to the monetary value of the investment in training. It is the net cost or benefit of the training activity relative to the investment, and is frequently expressed as a ratio or a percentage. All benefits and costs of the training are given a monetary value, summed, and compared to determine whether the program yielded a net benefit or net cost. This net value is then divided by the cost of the investment.

From the perspective of the individual learner, benefits might be increases in earnings while costs might include the cost of training materials and foregone wages (e.g. if workers are not compensated for training during work hours). The research base in relation to the returns from training is not as developed as it is for returns from investment in education more broadly. In a review of the evidence on returns to education and training by Blundell et al. (1999), the authors find that the private returns from employer-provided training (variously measured) to individual workers" real earnings have consistently been found to be significant. Individuals undertaking employer-provided training earn, on average, just above 5 per cent higher real earnings than individuals who have not undertaken such training, with some studies showing higher rates. However, it is often not clear whether the observed return is net of any individual costs related to the training, since the available data do not contain information on the actual division of costs between employer and employees (Blundell et al. 1999).

There are some studies from Canada, the US, and the UK that have estimated the ROI for firms from LES workplace training. For example, Skillnets (2005) presents a case study of a meat processing company in Ireland that provided English language training to its employees who were largely migrant workers. To calculate ROI, data related to tangible benefits was used and compared to the cost of training. It was found that the training had generated a ROI of 61%. A second study by the ROI Institute (2007) of VT Shipbuilding"s literacy, numeracy, and IT skills training also used Kirkpatrick/Phillips evaluation approach and found a ROI of 140%.

There are also two notable ROI studies from Canada. Ouimet (1994) examined a training program intended to enhance supervisors" skills related to problem-solving and task planning and execution. The use of the Kirkpatrick/Phillips approach estimated a ROI of 215%, which the author attributes to minimized training costs due to employees" investment of their own time in training, as well as the efficient transfer of learning to the workplace through the use of real workplace problems in the training program.

The other Canadian study is by the Canadian Society for Training and Development (CSTD) (2010), which examined the outcomes of a basic computer skills course at ArcelorMittal Dofasco, a steel manufacturing company. The course was offered on a voluntary basis to all employees, although it was intended to improve business performance improvements in the Slab Handling and Storage area. Classes included employees holding a variety of job positions, meaning that participants" education could have ranged from those who had not completed high school to college and university graduates. Unfortunately, unanticipated participant and scheduling changes, and an insufficient number of Slab Handling and Storage employees did not allow the analysis to draw reliable conclusions about the training"s contribution to improved productivity. Because the training was not targeted to Slab Handling and Storage employees, more than half of participants reported that it was not possible for them to apply their new learning to a high degree in their specific work situation because of its irrelevancy to their work situation.

It is important to note that most research on the returns to workplace LES programs uses a qualitative methodology that draws on employers" perceptions. This is in part because few companies collect quantitative data on the benefits arising from the training that they deliver to employees, and also because estimating ROI tends to be complex. For example, a recent US study by Hollenbeck and Timmeney (2009) found that they could not estimate the ROI because firms did not collect data that allowed business return to be formally measured. Also, due to the difficulty of converting intangible benefits to monetary values, they are often excluded from ROI calculations, likely leading to underestimation. Another fundamental issue is that it can be difficult to correlate outcomes specifically to training, since business performance may or may not derive directly from individual behaviour or performance (Bersin, 2008).

2.4 Return on Expectations

Return on expectations (ROE) is the process of estimating returns to training relative to stakeholder expectations. Unlike ROI which is simply an accounting valuation technique, ROE is an evaluation *process* that ideally begins before the training intervention is implemented, as it requires the training program to be tied to performance and business needs, as expressed by key stakeholders (the employer). The term ROE was created to highlight the importance of aligning training goals and content to the specific needs of the organization by ensuring that the training aims to address the causes of performance gaps and in turn contribute to business goals, which are ultimately what employers care about. Thus, the *Measures of Success* project is in large part an exercise in evaluating ROE.

According to James and Wendy Kirkpatrick (2010), "ROE is the ultimate indicator of value". Stakeholder expectations define the value that training professionals are responsible for delivering. Training professionals must ask the stakeholders questions to clarify and refine their expectations. Training professionals then need to convert the typically broad, unquantified expectations into observable, measurable business results by asking the question, "What will success look like to you?" These goals become the targets on which the training efforts are focused. Next, they work with the managers of the intended training participants to identify the critical behaviours needed to produce the desired results. This in turn informs the learning objectives of the training program. The training professional should also determine what evidence will be required to show that the initiative was a success. Kirkpatrick and Kirkpatrick state that evaluation is much easier to perform when the measurement methods, tools, and techniques are defined at the start of the initiative. Once there is a clear understanding of the result to be accomplished, the next step is for training professionals to work with business managers and supervisors to create a tactical execution plan. According to the authors, there must also be agreement about the intensity of effort required from all departments before, during, and particularly after training. When participants return to the job after training, required drivers (processes and systems that reinforce, monitor, encourage, or reward performance of critical behaviours on the job) must be in place to provide both support and accountability for the consistent performance of critical behaviours. The degree to which drivers occur directly relates to the extent to which critical behaviours are performed. Performance of critical behaviours is what yields business-level results, and results determine the ROE from the training activity.

ROE can be an especially useful technique when businesses fail to track the data needed at the individual level, making it nearly impossible to isolate the specific effects of a training program. For training professionals looking to make educated decisions about more subjective learning programs, the evaluation of ROE may be a worthwhile investment (Goldwasser, 2001). However, despite the value of an ROE evaluation, some training professionals will not give up conducting true ROI studies. Toni Hodges, manager of measurements and evaluation for Verizon's Workforce Development Division often conducts corresponding ROI impact studies with ROE evaluations, and reports that the results have supported ROE findings every time. For certain training initiatives, such as those designed to drive sales in a particular area, she believes that hard numbers provide the best measurement of success. Therefore, it may also be valuable to calculate *both* ROI and ROE (Goldwasser, 2001).

2.5 Data Sources

To gather the necessary information, researchers will be asked to collect data using a variety of data sources. The primary vehicle will be structured and semi-structured interviews with a variety of interviewees; however, this will also be supplemented with secondary data sources wherever possible. The research plan calls for the interviews to be repeated at **baseline, 3-months after training begins, and 6-months after training begins**. To save time, where practical some of the interviews may be combined into group interviews (e.g. a joint interview with project co-ordinator and trainer or with several supervisors).

Table 1 – *Measures of Success* Data Sources

Source	Description
ONA and other workplace documentation	By reviewing the ONA and other workplace documentation, the researcher will familiarize him/herself with workplace background, the local project design as well as workplace issues. Wherever possible, this review should happen prior to speaking with senior contacts and line supervisors.
Interviews with project co-ordinators	These interviews will further explore the purpose, design and delivery of the local project.
Interviews with Trainers	These interviews will explore all issues around the delivery of the project including the instructors" teaching and delivery style, curriculum and customization, as well as delivery successes, challenges and issues.
Management Information System (MIS)-participant training data	Based on administrative data provided by trainers, the researchers will data capture information on each participant"s attendance and the number of hours of training received.
Interview with senior employer contacts	These interviews will explore key business goals, performance needs and performance gaps and how these may relate to the training.
Interviews with mangers/supervisors	These interviews will cover similar issues related to performance needs as will the senior contact interviews but at a more "micro" level.
Survey completion and interviews with workers	A structured interview that is suitable for "pencil and paper" completion in a group setting is being prepared and will be administered to as many workers as possible in groups (hopefully 10-15 per worksite). This will be supplemented with a limited number of one-on-one semi-structured interviews with workers to garner more qualitative information.
Other secondary data sources	To provide context, researchers will gather information from secondary sources concerning the local socio-economic conditions as well as the broader market conditions for the relevant industries.

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APPENDIX A – POTENTIAL FACTORS AND OUTCOMES FOR MEASUREMENT IN *MEASURES OF SUCCESS*

Abbreviations:

ONA = organizational needs assessment
Co-ordinator = semi-structured interview with project co-ordinator
Trainer = semi-structured interview with trainer
MIS = MIS-participant training data
Employer = Semi-structured interview with senior employer contact
Supervisor = semi-structured interview with line managers or supervisors
Worker survey = structured worker survey
Worker interview = semi-structured one-on-one interview with worker
Secondary = other secondary data

A. TRAINING PROCESS

1. Workplace LES Training Process		
Inputs and Outputs	**Indicator**	**Source/Measure**
Type of skills training	• Document use • Oral communication/working with others • Computer Use • Numeracy	ONA: Researcher review of ONA
Purpose (employer perspective)	For example, • To address a skills shortage (reactive) • To meet to new or future certification or industry requirements (adaptive) • To increase competitiveness of firm (strategic) • To boost employee trust, loyalty and morale	Employer/Supervisor: Ask employer/supervisor as to purpose of project.

1. Workplace LES Training Process		
Inputs and Outputs	**Indicator**	**Source/Measure**
Business alignment Learning objectives support performance and business needs of the organization	• Employer can identify firm's key business goals, and describe gap between business goals and current business results • Employer can describe performance needs to close business gap • Employer can describe performance needs in behavioural terms • Employer indicates Essential Skills to be a cause of performance gap • Learning objectives of training aim to address stated essential skills gaps • Instructors obtain feedback from line managers to ensure training content fits stated performance goals • Only workers with performance gap participate in training	ONAs where possible supplemented by questions asked of Employer/Supervisor. For example, • Employer asked to describe in behavioural terms the desired performance of workers • Employer asked what they think is causing the current performance problems • Employer asked how achieving the performance goals will help to contribute to business goals • Employer asked "How were individual employees selected for participation in the programme?"
Match to learner needs and goals (design feature)	• Training is tailored to individual participant skill level • Training goals are consistent (or at least not at odds) with participant goals • Others? (Ask Steering Committee for ideas)	Trainer and Worker survey/Worker interview: Ask participant how the training fits with their goals
Contextualized training content/curriculum (design feature)	• Program elements are based on participants' actual day-to-day tasks and experiences at work • Instructional materials include actual materials participants use on the job	Trainer

1. Workplace LES Training Process		
Inputs and Outputs	**Indicator**	**Source/Measure**
Assessment and evaluation (design feature)	• Participants undergo ongoing assessment • Participants are provided feedback on progress throughout the program • Employers are not informed of assessment outcomes	Trainer and Co-ordinator
Teaching style (delivery feature)	• Whether instructor uses mostly a traditional didactic, teacher-directed approach versus learner-directed approach (participants direct the learning toward areas of personal interest/relevance)	Trainer
Flexible and customized delivery model (delivery feature)	• Delivery of instruction changes according to type of skill being taught, nature of the performance goal, class dynamics, attitudes and reactions of participants, etc.	Trainer
Duration	• The total number of hours/days/weeks of training delivered	MIS supplemented by Trainer questions.
Intensity	• The number of hours per day/week, days per week/month of the training activity	MIS supplemented by Trainer questions.
Timing of the instruction	• Whether classes occurred during or after work hours	Question for Trainer supplemented by MIS data where possible.
Instructor's teaching ability	• Instructor's education level and type • Instructor's level of experience	Questions for Trainer
Class size	• Number of participants in a class	Question for Trainer supplemented by MIS data where possible.
Contact hours	• Number of hours of training that an individual participant actually spent in training (i.e. attendance)	MIS supplemented by Trainer questions.
Training take-up	• Number of participants who participate, number who refuse to participate	-Number who do participate MIS supplemented by Trainer questions. -Number who do not participate, employer, supervisor and trainer questions.
Completion of training activity	• Number of participants that completed the training activity	MIS supplemented by Trainer questions.

1. Workplace LES Training Process		
Inputs and Outputs	**Indicator**	**Source/Measure**
Participant reaction to training	• Relevance/utility • Ease/difficulty • Convenience	Worker survey/Worker interview: • Whether participant perceives the training to be relevant to his/her job • Whether participant perceives that the training will improve his/her performance on the job • Whether participant would have taken the course in retrospect • Whether participant would recommend the training to a co-worker • Participant struggled or excelled in training • Training occurred at convenient times, with little disruption to workload
Participant engagement in training	• Participant regularly responds to questions/statements posed by instructor or other participants • Participant asks questions • Participant completes assigned tasks • Participant would recommend the training to others • Participant feels that training is relevant to job	Trainer
Participant awareness and intentionality	• Participant is able to accurately articulate the goals of the training • Participant intends to apply new skills to the job	Worker interview: Questions directed to worker, “What were the goals of the training”, and “How will you apply the training on the job”

B. MEDIATING & MODERATING FACTORS

2. Individual Factors		
Factors	**Indicator**	**Measure**
Demographics	• Age • Gender • Education level • Race • Language • Immigration/citizenship status • Ethnicity/aboriginal status • Income	Worker Survey: Direct ask of worker
Life course circumstances	• Marital status • Number of children • Age of children	Worker Survey: Direct ask of worker
Employment characteristics	• Status (e.g. contract , seasonal, permanent part-time, permanent full-time) • Time with firm • Union membership • Seniority level • Current job title • Main duties on the job • Previous job title	Worker Survey: Asked of worker on baseline. (PT/FT derived based on reported number of hours worked per week)
Participant activity limitation/baseline health	• Whether participant has a physical condition, mental condition, health problem.	Worker Survey: -Participant has difficulty hearing, seeing, communicating, walking, etc. sometimes, often, not at all. -participant asked whether they have a physical condition, mental condition or health problem that reduces their activity....at home, at work, at school.
Initial cognitive skills	• Initial skill level in all Essential Skills	Worker Survey: There are three options for capturing essential skills: 1)Formal Literacy Assessment 2) Self-Reported Measures 3) Concrete worker scenarios See note entitled “Ascertaining Participants’ Essential Skills Capabilities” for more detail.

2. Individual Factors		
Factors	**Indicator**	**Measure**
Initial non-cognitive skills	• Motivation • Self-esteem • Self-efficacy	Worker Survey: Non-cognitive skills will be measured through the use of established psychological scales. • *Motivation and Engagement Scale (MES, short form)* ,11 items E.g. Participant persists in their job despite challenges or difficulties • *Single-Item Self-Esteem Scale* E.g. Participant perceives they have high self-esteem • *Generalized Self-Efficacy Scale, 10 items,* E.g. Participant finds it easy to accomplish goals
Initial non-cognitive skills (con't)	• Locus of control • Resilience • Time perspective • Attitude to learning	• *Work Locus of Control Scale, 16* E.g. Participant believes that making money is primarily a matter of good fortune. • *Abbreviated Connor-Davidson Resilience Scale (CD-RISC2), 2 items,* E.g. Participant believes they are able to bounce back from illness or hardship • *Zimbardo Time Preference Inventory (ZTPI, 15 items)* Participant able to resist temptation when there is work to be done 4 items previously used by SRDC
Prior educational experiences	• E.g. whether they were positive or negative	Worker Survey: Direct ask of worker
Other training	• Whether participant engaged in another learning program/course shortly before, during or shortly after (within one year of) the training, and the characteristics of this other training (i.e. type, purpose, duration, etc.)	Worker Survey: Respondent asked to provide a full roster of courses taken in the year prior to training. For each course obtain location, who paid, number of hours of study, topic and completion.

3. Workplace Factors		
Factors	**Indicator**	**Measure**
Employer/manager awareness and expectations	• Management is able to accurately articulate training goals • Employer/management confidence that training will achieve performance and business goals • Employer/management expectations of time commitment is consistent with actual time required to deliver training	Employer/Supervisor: E.g. Employer indicates on scale of 1-10 the extent to which he/she feels that training will meet performance and business needs Employer is asked of the expected time commitment of the training.
Employer/management support for training	• Management agrees training is useful to address performance gaps • Management is supportive of training • Employer provides in-kind support by allowing participants to engage in training during work hours (at full pay or half-pay, etc)	Employer/Supervisor: Employer/Supervisor is asked about their attraction to program, reaction of other managers and their role in making it a success. Employer: Employer asked whether employees are allowed to participate on work time.
Coaching and reinforcement	For example, • Management allows workers to practice and develop newly acquired skills on the job • Management helps workers understand how to build and execute their own development • Management provides constructive feedback as appropriate	Worker survey: Employees will be asked the 23-item Work-related Quality of Life Scale (WRQoL) scale which includes items related to coaching and reinforcement including "I have the opportunity to use my abilities at work", "When I have done a good job it is acknowledged by my line manager", and "I am encouraged to develop new skills " Employer/Supervisor: Similar items are also asked of the employer in order to garner their perspective.
Workplace culture	For example, • Competitive, non-competitive • Fast-paced, slow-paced • Energetic, lackadaisical • Corporate, casual • Rigid, flexible • Level of unionization	Employer/Supervisor: Employer asked of their impression of office culture.

3. Workplace Factors		
Factors	**Indicator**	**Measure**
Access to resources and supports	• Workers can access tools and aids that they need to do their job.	Worker survey: Included as part of Work Related Quality of Life scale: "My employer provides me with what I need to do my job effectively" Employer/Supervisor: Similar items are also asked of the employer in order to garner their perspective.
Opportunities	• Training content matches skills required for current job or upcoming job opportunities • Worker perception of number of opportunities in workplace	Worker survey: WRQoL asks "I am satisfied with the career opportunities available for me here" Employer/Supervisor asked similar question
Work processes	• Work tools and systems agree with and reinforce training goals	Employer: Employer asked about implementation of new technology. Worker Survey: E.g. Worker asked if any part of their work processes prevents them from applying their new skills or meeting desired performance levels
Incentive structures	• Rewards are meaningful to workers and targeted at performance that leads to business goals • Penalties are meaningful to workers and targeted at performance that hinders achievement of business goals • Rewards and penalties are predictable and consistent, and explained clearly in codes of conduct, job contracts, or other formal documents	Employer: Employer is asked whether they have incentives in 1 of 4 categories. -Individual incentives (including merit or skill-based pay). -Group incentive systems -Profit sharing -Employee stock plans The employer is then asked to describe in detail how the incentives work.
Clarity of roles and expectations	• Workers can feel that their job role and expectations as defined by the employer is clear.	Worker Survey: Part of WRQoL scale "I have a clear set of goals and aims to enable me to do my job". Similar question of employer/supervisor.

4. Enabling and Hindering Factors		
Factors	**Indicator**	**Measure**
Public policy and programs	• Policies/programs that create incentives for firms to invest in new capital (machinery, technology)	Secondary: Review of secondary sources on government incentives (e.g. government websites). Employer: Employer asked if they received any training incentives

4. Enabling and Hindering Factors		
Factors	**Indicator**	**Measure**
Socio-economic and market conditions	• Business cycle • Market Conditions	Secondary: Review of secondary sources including • Local GDP • Sector studies indicating recent issues and changes in sector
Labour market	• Skills/occupational supply and demand	Employer: Question to be asked of employer on perceived labour supply. Secondary: Secondary sources used to garner further information on labour supply by industry

C. INTERMEDIATE OUTCOMES

5. Human Capital		
Outcomes	**Indicator**	**Measure**
Skills gains	• Document use skills • Oral communication/working with others skills • Computer use skills • (Numeracy skills)	Worker survey: There are three options for capturing essential skills: 1)Formal Literacy Assessment 2) Self-Reported Measures 3) Concrete worker scenarios See note entitled "Ascertaining Participants' Essential Skills Capabilities" for more detail.

6. Psychosocial Capital (non-cognitive skills)		
Outcomes	**Indicator**	**Measure**
		Non-cognitive skills will be measured through the use of established psychological scales
Self-efficacy	• Participant believes in their ability to perform tasks	Worker Survey: • Generalized Self-efficacy scale, 10 items, E.g. Participant finds it easy to accomplish goals
Self-esteem	• Participant's level of self-esteem	Worker Survey: • Single-item Self-Esteem Scale, E.g. Participant perceives they have high self-esteem
Locus of control	• Participant's perceived control over personal circumstance	• Work Locus of Control Scale, 16 items, E.g. Participant believes that success is not a matter of fate or luck
Motivation	• Participant works towards their goals has goals	Worker Survey: • Motivation and Engagement Scale, (MES, short form), 11 items, E.g. Participant persists in their job despite challenges or difficulties
Resilience	• Participant ability to cope with change or difficulty	Worker Survey: • *Abbreviated Connor-Davidson Resilience Scale (CD-RISC2), 2 items,* E.g. Participant ability to recover from illness or hardship
Time perspective	• Extent to which participant is future-oriented	Worker Survey: • *Zimbardo Time Preference Inventory (ZTPI, 15 items)*E.g. Participant able to resist present temptation to achieve goals

7. Social Capital		
Outcomes	**Indicator**	**Measure**
Bridging	• Size and quality of networks that are heterogeneous and connected by weak/loose ties	Worker Survey: For social capital respondents will be asked to report the number of people from whom they could: -get help with activities -get specialized advice -get emotional support -get help with a job -go to for help with an aspect of their job Respondents will then be asked -total network size -proportion of network who know each other -education level of contacts relative to respondent.
Linking	• Size and quality of networks that are heterogeneous and connected by weak/loose ties with those in positions of influence or of a higher socioeconomic status	
Bonding	• Size and quality of networks that are homogenous and connected by close/strong ties	

8. Everyday Practices		
Outcomes	**Indicator**	**Measure**
Commitment to further learning	• Participant has an interest in and engages in additional training/education outside of work, and can articulate the type of training • Participant integrates literacy and essential skills into everyday practices • Participant helps children with homework and asks about his/her learning progress	Worker Survey: Participant will be asked to report all of the training taken. Participant will be asked about their learning goals and interests. • Scale developed by Reder et al. asks participants how often they use certain literacy practices in their daily lives (e.g. reading fiction and non-fiction). • E.g. Regularly visits child teacher, reads to child regularly.
Participation	• Volunteering • Civic engagement	Worker Survey: • Participants will be asked whether they are part of a sport or recreation organization, a cultural or hobby group, a community organization or a place of worship.

8. Everyday Practices		
Outcomes	**Indicator**	**Measure**
		• Participant is also asked about what activities they engaged in with these groups. • Participant will be asked whether they voted in the last election.
Trust	• Sense of belonging • Sense of security and stability	Currently not included in instruments.
Health practices	• Giving up or reducing incidence of unhealthy practices such as smoking and drinking • Engaging in exercise • Eating more nutritiously • More involvement with own health care (e.g. visits physician as appropriate, asks more questions, researches own health issues and prescriptions, etc.)	Worker Survey: Rather than directly measuring all of these outcomes, due to space constraints SRDC is considering using the well established *SF-12v2 Health Survey(7-items)*

9. Workplace Performance		
Outcomes	**Indicator**	**Measure**
Task efficiency	• Participant can complete tasks with increased speed while not comprising on accuracy/quality	Worker survey, employer, supervisor: Employer and employee will be asked to assess improvements in employee performance. • SRDC is also investigating whether there are scenario-based measures which may be used to assess employee performance.
Task effectiveness	• Participant improves the accuracy/quality of his/her work	Worker survey, employer, supervisor: Employer and employee will be asked to assess improvements in employee quality/accuracy of work.
Commitment to further learning	• Participant is interested in and engages in further learning opportunities at work (including informal learning on the job)	Worker survey: Respondent asked to provide a full roster of courses taken in the year prior to the baseline and during the follow-up period. For each course obtain location, who paid, number of hours of study, topic and completion.
Participation	• Participant joins workplace committees, contributes thoughts and ideas in meetings, participates in workplace events	Worker survey: WRQoL scale asks “I am involved in decisions that affect me in my own area of work”.

D. LONG-TERM OUTCOMES

10. Individual Financial Outcomes		
Outcomes	**Indicator**	**Measure**
Earnings	• Level of earnings	Worker survey: Asked of employee at baseline and follow-up
Career advancement	• Promotion to a job with increased responsibility and pay	Worker Survey: Employee will be asked if their job changed during the follow-up period. They will also be asked to describe their duties.
Job quality	• Safer and healthier work environment • Improved benefits • Job security • Less stressful • Paid overtime • Allows for overall work-life balance • Opportunity for employer-sponsored training • Skills match job demands	Employer/Supervisor: • Employer asked number of health and safety issues. Worker Survey: WRQoL asks employee and employer about perceived level of stress, work-life balance and whether worker perceives environment to be safe. Question will be asked of employee related to overtime.
Job satisfaction	Participant feels satisfied with their job	Worker survey: WRQoL Scale includes a 6-item job and career satisfaction subscale.

11. Individual Non-financial Outcomes		
Outcomes	**Indicator**	**Measure**
Increased access to goods and services	• Confidence in making complex financial decisions (e.g. investing in stocks) • Confidence in reading a novel • Confidence speaking to personnel at government service centres, health service centres, etc.	Worker Survey: Scale taken from IALSS asks comfort with literacy/numeracy practices: "a) I am good with numbers and calculations. b) I feel anxious when figuring such amounts as discounts, sales tax or tips. c) I read only when I have to d) Reading is one of my favorite activities e) I enjoy talking about what I have read with other people"
Social inclusion	• Access to and participation in valued dimensions of society (definition by, Crawford, 2003)	Worker survey: • Participants will be asked whether they are part of a sports or recreation organization, a cultural or hobby group, a community organization or a place of worship • Participant is also asked about what activities they engaged in with these groups.
Social cohesion		Currently there are no plans to measure general social cohesion but instead to concentrate on social cohesion in the workplace.

Health status	• Participant's emotional problems • Participants level of pain • Participant's feelings of well-being	Worker survey: • Gandek et al, 1998, 7 items E.g. Participants perception of their overall health
Life satisfaction	Overall Life Satisfaction	Worker Survey: Participant is asked to rate their overall life satisfaction on a scale of 1 to 10.

12. Firm Less Tangible Outcomes		
Outcomes	**Indicator**	**Measure**
Workplace relations, engagement, Morale	• Employees willingness to initiate or participate in workplace activities • Employees get along with one another (friendliness, cooperation, supporting others, etc.) • Labour-management relations • Absenteeism • Retention	Worker survey: Employee Engagement Scale by Robinson, D., Perryman, S. and Hayday, (5-items) Final item of WRQoL is **"**People at my workplace get on together quite well." Employer/Supervisor: Employer is asked to characterize labour management relations. Employer is asked if they track absenteeism and if so the incidence. Employer is asked about number of people who have left 12 months prior to training and then will be asked again about turnover during follow-up period
Social inclusion	• Employees willingness to initiate or participate in workplace activities	Worker Survey: Included items from Employee Engagement Scale by Robinson, D., Perryman, S. and Hayday, (5-items). "1. I speak highly of this organization to my friends. 2. I would be happy for my friends and family to use this organization's products/services. 3. This organization really inspires the best in me in the way of job performance 4. I try to help others in this organization whenever I can 5. I volunteer to do things outside my job that contribute to the organization's objective."
Social cohesion	• Trust in others • Sense of belonging • Sense of security and stability	Worker survey/worker interview: Employee is asked to rate their trust in co-workers and management. Employees are also asked: "My co-workers help others in this organization whenever they can" "My co-workers volunteer to do things outside their job that contribute to the organization's objective."

12. Firm Less Tangible Outcomes		
Outcomes	**Indicator**	**Measure**
Culture of learning	• Availability of training and resources • Employees interested in learning new skills, actively participate in training activities	Employer/supervisor: • Employer will be asked in detail about training offered at worksite in 12 months prior to baseline and during the follow-up period. Question will capture what is offered as well as employee take-up and amount employer spent.

13. Firm Financial Outcomes		
Outcomes	**Indicator**	**Measure**
Productivity	• Quantity of outputs relative to quantity of inputs	Employer/Supervisor: • Depending on industry questions related to sales, quality and customer service may be asked as measures of change in productivity. NB. Questions need to be sensitive to various tracking capabilities in different firms and different levels of sensitivity in providing data.
Product quality	Product: • Product performance • Durability	Employer/Supervisor: • Employer to be asked about changes to product quality and durability
Errors	Number of employee errors	Employers are asked if they track errors, and if so what is the cost.
Customer service	Customer satisfaction	Employer/Supervisor: Employers are asked about what percentage of customers are satisfied with the customer service they receive.
Sales	Employee sales	Employer/Supervisor: Employers are asked sales per employee per week.
Worker retention	• Turnover rate relative to industry norms	Employer/Supervisor: -Employer is asked about number of people who have left 12 months prior to training and then will be asked again about turnover during follow-up period. Secondary: Industry norms obtained from secondary data.
Reduced absenteeism	• Number of person days missed in follow-up period	Employer/Supervisor: Employer is asked if they track absenteeism and if so number of person days missed
Health and safety	• Fewer injuries on the job • Reduced illness	Employer/Supervisor: • Employer is asked how they track health and safety as well as the estimated level (E.g. Number of health and safety incidents reported in last year)

APPENDIX B - A GAP ANALYSIS EXERCISE FOR EMPLOYERS