



CENTRE FOR
HUMAN
CAPITAL
POLICY

CANADA WEST FOUNDATION

SMARTEN UP

It's time *to* build
essential skills

JANET LANE & T. SCOTT MURRAY
JUNE 2015

CANADA WEST FOUNDATION

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The Centre for Human Capital Policy focuses on the economic importance of a skilled and productive workforce to Canada's current and future prosperity and supports policies that will enable western Canadians to reach their full potential.

EXECUTIVE SUMMARY

If every worker had the essential skills needed to do their jobs really well, productivity and competitiveness in the West would soar. But many workers do not. Forty per cent of our workforce does not have the essential skills – including language, literacy and numeracy – needed to apply their technical skills and knowledge at globally competitive levels. Investing in upgrading essential skills would provide the West with an opportunity to change the productivity narrative.

Essential skills are the basic communication and thinking skills needed by everyone to varying levels, depending on their job. High levels of essential skills make a technically competent worker more valuable. Workers with a shortage of the essential skills required by their jobs may be able to perform only their routine tasks well. They are less likely to be able to adapt to changing demands, think critically, work well in high-performing teams, problem solve or perform the less frequent but still important tasks of their jobs. Building these essential skills would improve the capacity of workers to do their jobs well and provide a much needed boost to labour productivity.

In this study, the Canada West Foundation analyzed data from the Programme for the International Assessment of Adult Competencies undertaken by OECD and Statistics Canada in 2011, imputed with data from the Canadian National Household Survey of the same year. These findings were combined with the essential skills profiles of more than 300 occupations derived by the federal Employment and Social Development Canada (ESDC).

Every sector of the economy could improve its productivity by helping its workers increase essential skills. Shortages are experienced across occupations and job types in all sectors. They exist in many demographic groups, vary by occupation and province, and average 40 per cent. Key findings include:

- Nearly one-third of 16- to 25-year-olds are short of some essential skills for their jobs.
- Immigrants have shortages for their jobs at higher levels (between 10 and 16 per cent higher) than the non-immigrant population.
- In most of the West, Aboriginal people living on reserves are more likely to have shortages than their off-reserve counterparts. Aboriginal people who live off-reserve experience a similar level of shortages as the population overall.
- Half of the people who did not finish high school have essential skills shortages.
- Thirty per cent of university graduates have essential skills shortages for their jobs.

Essential skills matter. Firms that have workers with higher essential skills report higher employee retention rates, lower absenteeism, better health and safety records, increased customer satisfaction, reduced need for supervision, increased production quality and increased productivity. All of these contribute to improved profitability. One recent study found a 23 per cent rate of return on a high-quality essential skills training investment of \$2,500 per employee, in the first year. Workers also benefit from having higher essential skills. They find it easier to learn, have higher incomes and fewer periods of unemployment, and are in better health. Essential skills are not just for work; they are skills for all of life.

There are several reasons for these skill shortages. Education systems have not kept up with the recent increased demand for skills. At high school graduation, literacy and numeracy skills should be developed to the level required in most jobs. However, some high school graduates do not have the skills the diploma is intended to reflect. As well, workers in jobs that do not demand that they fully use the skills they have lose them. In an effort to improve productivity, some employers routinize or narrow the scope of job tasks, but this too leads to a decline in skills that are underutilized and ultimately actually decreases worker productivity.

The research suggests several possible ways to take advantage of this opportunity to improve productivity. These include: greater emphasis on skills in our education systems; workplace training; provision of essential skills training through post-secondary institutions and community-based organizations; and, full utilization of the skills held by every worker.

40%

of the WORKFORCE **DOES NOT** HAVE THE ESSENTIAL SKILLS NEEDED TO APPLY THEIR TECHNICAL SKILLS AND KNOWLEDGE AT GLOBALLY COMPETITIVE LEVELS.

1/2

of the PEOPLE WHO DID NOT FINISH HIGH SCHOOL HAVE ESSENTIAL SKILLS SHORTAGES.



NEARLY

ONE-THIRD

of 16- TO 25-YEAR-OLDS **ARE SHORT** OF SOME ESSENTIAL SKILLS FOR THEIR JOBS.

30%

of UNIVERSITY GRADUATES ALSO HAVE ESSENTIAL SKILLS SHORTAGES FOR THEIR JOBS.



IMMIGRANTS HAVE SHORTAGES FOR THEIR JOBS AT HIGHER LEVELS

BETWEEN

10-16%

HIGHER THAN

THE NON-IMMIGRANT POPULATION.

In most of the WEST, **ABORIGINAL PEOPLE** LIVING ON RESERVES ARE **MORE LIKELY TO HAVE SHORTAGES** THAN THEIR OFF-RESERVE COUNTERPARTS.

Aboriginal people who live off-reserve experience a similar level of shortages as the population overall.

40%

of the WORKFORCE COULD
PERFORM BETTER *with*
ENHANCED ESSENTIAL SKILLS

Defining the size of the opportunity

Essential skills are the fundamental skills that people need to thrive in the workplace. **Figure 1** identifies the nine essential skills. They can be considered basic skills, but they are not easy to learn. Level 3 reading skills are roughly equivalent to those normally expected at high school graduation.

A truly valuable employee communicates well, works well in teams, makes good decisions, problem solves, can handle the job's truly difficult tasks and can adapt to the changing demands of their job. In short, they are highly productive. While the level of skill required varies from task to task within occupations, the best employees have the essential skills required to do the most demanding parts of their jobs.

FIGURE 1: THE ESSENTIAL SKILLS

ESSENTIAL SKILLS		DESCRIPTION
Reading		Ability to read material in the form of sentences/paragraphs
Writing		Writing texts, writing in documents (i.e. forms), typing
Document Use		Reading/interpreting and writing/completing/producing documents with a variety of information – words, numbers, icons and other visual characteristics
Numeracy		Use of numbers and capability to think in quantitative terms
Digital Technology Skills		Use of computers in various and complex ways
Thinking		Problem solving, decision making, critical thinking, job task planning and organizing, significant use of memory, finding information
Oral Communication		Use of speech to give and exchange thoughts and information
Working with Others		Working with others to carry out tasks
Continuous Learning		Ongoing process of acquiring skills and knowledge; knowing how to gain access to a variety of materials, resources and learning opportunities

Source: Employment and Social Development Canada, 2014

Essential skills levels for people in various occupations and a variety of demographic groups were determined using literacy skill levels as measured through a 2012 OECD study – the Programme for the International Assessment of Adult Competencies (PIAAC). This data was combined with data obtained through the Canadian 2011 National Household Survey (NHS). This statistical analysis is rigorous and meets reliability tests.¹ Literacy skill is used as a proxy for the other essential skills because the capacity to comprehend the written word is central to efficiently acquiring more advanced skills and highly correlated with results on other essential skills tests.

Literacy skills are measured on a 500-point scale, divided into five levels. The PIAAC uses the description in **Figure 2** to explain how the tasks for each level of literacy become more demanding. For this study, the PIAAC levels are taken to be equivalent to the skill levels in the tasks attributed to occupations in the essential skills profiles produced by ESDC. These profiles were used to determine the demand for essential skills in each occupation studied.

The other essential skills required for occupations are also measured by the complexity of the tasks involved.

FIGURE 2: PIAAC LITERACY – DESCRIPTION OF PROFICIENCY LEVELS 500-POINT SCALE

LEVEL	TASKS
Level 1 0-225 pts	Tasks require the respondent to read short pieces of text to find a single piece of information. Knowledge and skill in recognizing basic vocabulary, determining the meaning of sentences and reading paragraphs is expected.
Level 2 226-275 pts	Tasks require basic matching between the text and information, along with some paraphrasing and making low-level inferences.
Level 3 276-325 pts	Texts are lengthier and denser. Tasks require interpreting and evaluating multiple pieces of information.
Level 4 326-375 pts	Tasks are usually multi-step, requiring a synthesis and integration of information, as well as making complex inferences.
Level 5 376-500 pts	Tasks require a search for, and integration of, information from a variety of sources and making high-level inferences. Application and evaluation of conceptual ideas may also be required.

Source: PIACC, 2013



Essential skills shortages are pervasive

Shortages exist across

JOB TYPE & LEVEL

Across Canada, there are employees with essential skills levels below those required to do the demanding parts of their jobs well. In the West, the situation has exacerbated the existing scarcity of some types of skilled workers. On top of this, Saskatchewan and Alberta have recently had the lowest unemployment rates in the country (although declines in world oil prices have led to an increase in unemployment, especially in Alberta). Even with recent economic trends, it simply has not been possible for employers in most of the West to hire people with the required skills.

Figure 3 illustrates that the shortages are not restricted to entry level or low-skilled jobs. Even professionals and senior managers can have essential skills shortages that prevent them from excelling at their jobs – because their jobs demand higher levels of key essential skills. It is not just “them,” it is all of us.

Shortages exist across

INDUSTRY SECTORS & OCCUPATIONS

There is a significant percentage of workers with essential skill shortages across all industries and occupations studied. Expressed as a percentage of total employment in an occupation, most skill shortages are higher than 20 per cent (**Figure 4**).

Figure A3, in the appendix, shows a broader range of occupations and suggests that more people in the trades and technical occupations have a shortage of skills for their jobs than those in other types of work.

Shortages are related to

LITERACY LEVELS

The shortages are related to levels of literacy skills – as measured across a 500-point scale divided into five levels (see **Figure 2**). Level 3 is required by the majority of jobs in today’s economy. It is a level that more than 40 per cent of working age Canadian adults do not yet meet (**Figure 5**).

FIGURE 3: ESSENTIAL SKILLS SHORTAGES BY OCCUPATION TYPE (WESTERN PROVINCES WEIGHTED AVERAGE)

- Supervisors in manufacturing
- Managers in retail, food and accommodation
- Professional occupations in health
- Technical occupations in art, culture and sport
- Machinist, metal forming, shaping and erecting occupations
- Primary production labourers

Source: NHS, 2011 with imputed skill scores based on PIAAC, 2013 and ES profiles

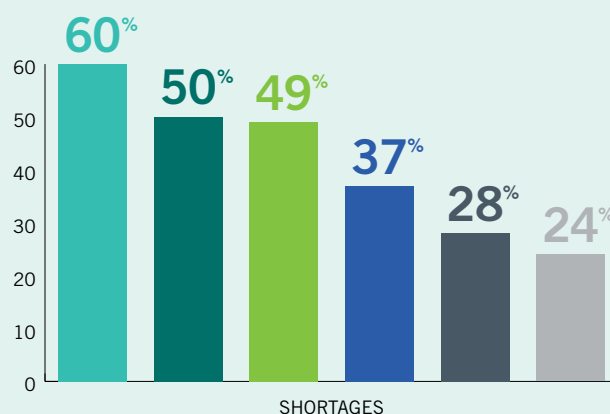


FIGURE 4: ESSENTIALS SKILLS SHORTAGES IN THE WESTERN PROVINCES (WEIGHTED AVERAGE)

- Cashiers
- Chefs and cooks
- Finance and insurance administrators
- Labourers in processing, manufacturing
- Wholesale, technical, insurance, real estate
- Technical occupations in health
- Construction trades
- Stationary engineers, power station operators

Source: NHS, 2011 with imputed skill scores based on PIAAC, 2013 and ES profiles

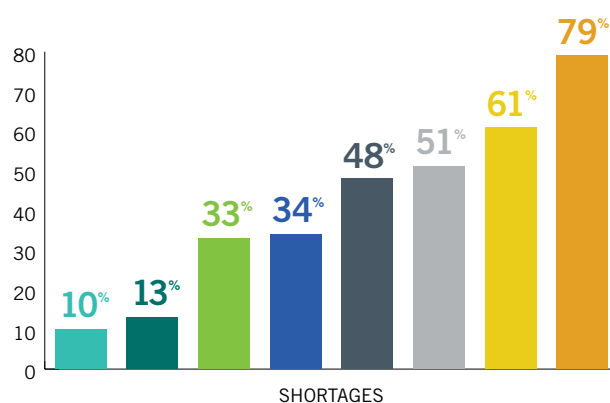
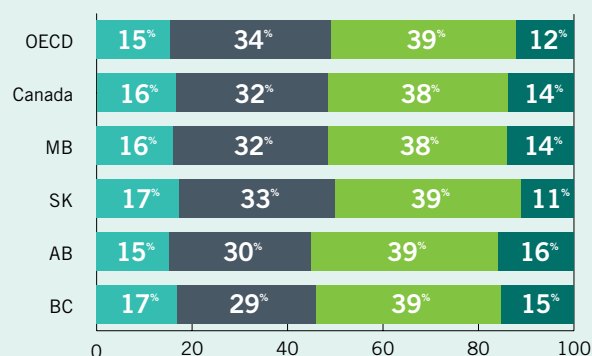


FIGURE 5: OVER 40% OF CANADIANS HAVE ONLY LEVEL 1 AND 2 LITERACY SKILLS (%)

- Level 1
- Level 2
- Level 3
- Level 4 + 5

Source: PIAAC, 2013



The shortages are pervasive across all demographics

Sorting the data by *age*, *education level*, *immigrant status* and *Aboriginal status* shows that shortages are prevalent across all these demographic sub-groups.

Age level

Figure 6 shows that all age groups are affected by essential skills shortages, even our youngest adults. While many 16-year-olds are still in school, most 25-year-olds have finished at least high school and many have some form of post-secondary education. While the depth of the shortages is smaller in this age group, it is still notable that more than 20 per cent of our young adults do not have the skills they need to do their jobs well. This is particularly significant as they are in the early stages of their careers and likely to be in what are considered entry level jobs. Older adults are more likely to be in jobs that are not considered entry level, and these jobs require higher levels of essential skills.

Education level

Figure 7 shows that people with higher levels of education are less likely to experience shortages of skills needed to do their job well. However, it is notable that 30 per cent of people who have achieved a post-secondary credential have essential skill shortages. Their jobs on average demand higher skill levels than the jobs filled by people with lower levels of education.

Immigrants

On average, immigrants to Canada have a more difficult time finding good, high-paying jobs that match their credentials than people who were born in Canada. Much, if not all, of this disadvantage can be explained by the fact that they are more likely to have weaker levels of essential skills, including language skills, than their equally qualified and experienced non-immigrant peers.² The research shows that immigrants experience shortages at a higher rate than non-immigrants (**Figure 8**).

Canada's immigration policies have changed over time to favour more highly skilled applicants. As a result, more recent immigrants have, on average, higher levels of educational attainment than non-immigrants. However, many still have comparatively poor English or French language skills. As language is a prerequisite of literacy, non-English or non-French speaking immigrants may do poorly on literacy tests.

Aboriginal status

Essential skill shortages are found in Aboriginal adults at a higher rate than in their non-Aboriginal counterparts. The difference is felt most critically in people living on reserves (**Figure 9**). Aboriginal people living off reserves experience almost the same levels of shortages of skills for their jobs as non-Aboriginal people.

The on-reserve skills shortage reflects the reality that education systems on reserves have not had good outcomes for the people they serve. The graduation rate of First Nations people living on reserve was 35.5 per cent as recently as 2011, compared with 78 per cent for the population as a whole.³

FIGURE 6: ESSENTIAL SKILLS SHORTAGES OCCUR IN ALL AGE GROUPS (%)

- Manitoba
- Saskatchewan
- Alberta
- British Columbia

Source: NHS, 2011 with imputed skill scores based on PIAAC, 2011 and ES profiles

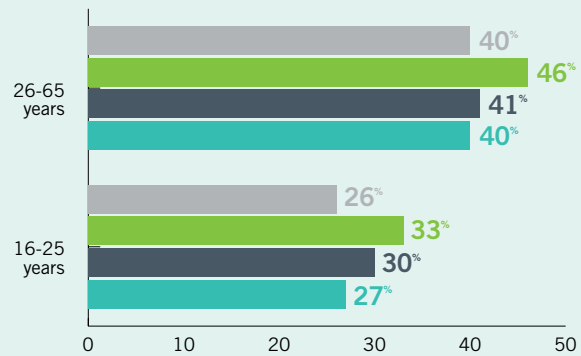


FIGURE 7: HIGHER EDUCATION REDUCES ESSENTIAL SKILLS SHORTAGES – BUT NOT BY AS MUCH AS MIGHT BE EXPECTED (%)

- British Columbia
- Alberta
- Saskatchewan
- Manitoba

Source: NHS, 2011 with imputed skill scores based on PIAAC, 2013 and ES profiles

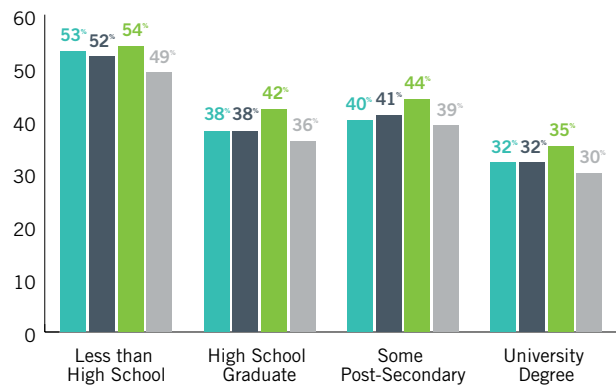


FIGURE 8: IMMIGRANTS ARE MORE LIKELY TO HAVE SHORTAGES OF ESSENTIAL SKILLS (%)

- Non-immigrants
- Immigrants

Source: NHS, 2011 with imputed skill scores based on PIAAC, 2013 and ES profiles

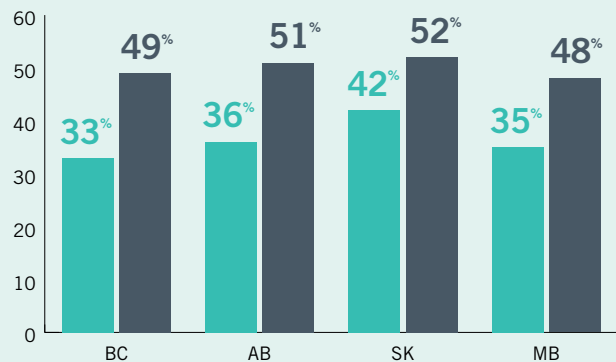


FIGURE 9: ABORIGINAL PEOPLE HAVE SHORTAGES OF SKILLS AT HIGHER LEVELS THAN NON-ABORIGINAL PEOPLE (%)

- Non-Aboriginal
- Aboriginal total
- Aboriginal living on reserve

Source: NHS, 2011 with imputed skill scores based on PIAAC, 2011 and ES profiles



Essential

SKILLS

Matter

Today's economy is driven by innovation and competition, and skills have become "the global currency."⁴ Highly skilled workers who can keep up with continuous change in the workplace are the main economic and social drivers for the country. When hiring in today's fast-paced and competitive workplaces, employers not only look for job-specific technical skills but also emphasize basic skills, such as communication, computer skills and teamwork. A recent Accenture survey reveals that Canadian business executives are concerned about their ability to fill job vacancies and skills shortages; only 36 per cent said their workforces have the skills they need today and for the next two years.⁵ The shortage is not just in technical skills, they say, but also in literacy, numeracy, working with others and oral communication – the essential skills.

This study verifies what employers are saying.

Essential skills are essential in every job

The Government of Canada has, in consultation with employers, determined the level of tasks required in more than 300 Canadian occupations. The essential skill profiles were used in determining the skills shortages reported in this paper. Full information is available from the ESDC website.⁶

In every job, different levels of essential skills are demanded by the various tasks; some tasks are easier, some are much more demanding. For instance, **Figure 4** shows that 10 per cent of cashiers lack the skills to do their jobs

really well. Most of the tasks within the usual cashier job description are at Level 1 and 2. However, dealing with dissatisfied customers is a Level 3 oral communication task. Many readers will recall a time when a cashier failed to understand and properly handle a complaint.

Similarly, 80 per cent of people in occupations associated with operating power stations are shown to have some essential skills shortages. One reason for these shortages is that, according to the profiles, the numeracy requirements for these jobs are quite advanced and sometimes prove difficult for otherwise technically competent employees.

While most of the workforce can be expected to perform everyday tasks reasonably well, lower essential skills levels contribute to lower capacity to manage more difficult tasks.

In times and regions of high unemployment, employers can hire their way out of essential skills shortages simply by recruiting higher skilled people. When and where there is lower unemployment, however, this is not so easy; there are, overall, fewer people with adequate skills. The West has been experiencing lower-than-average unemployment rates. In the past, employers were more willing to provide workplace training. In the past two decades, they have reduced training dollars by 40 per cent on average.

The increased demand for essential skills

Essential skills have always been literally essential in every job, but advances in information and communication technologies, globalization of economic activity and a move to the knowledge-based economy have increased the demand for higher and higher skill levels, even for relatively lower skilled occupations.⁷ As the International Labour Office (ILO) of the G20 puts it:

“The globalization of markets is accelerating the diffusion of technology and the pace of innovation. New occupations are emerging and replacing others. Within each occupation, required skills and competencies are evolving, as the knowledge content of production processes and services is rising.”⁸

Until recently, the western Canadian economy was characterized by jobs that did not require a high level of literacy skill. For more than 100 years, a good living was made by many people who did not complete high school. Recent advancements in the economy have changed all that. The demand for literacy skills has increased in significant ways. The national distribution of employment by occupation time series, calculated in December 2010, revealed that the economy in the West is rapidly becoming more knowledge- and skill-intense. Shifts in employment, observed between 2001 and 2010 in the Labour Force Survey, mirror the trend observed in the Canadian

Occupational Projection System (COPS)⁹ projections for Canada. Job losses appear to have been concentrated in occupations that are characterized as demanding lower levels of literacy skills. Conversely, job gains have been concentrated in occupations that are characterized as demanding higher levels of literacy skills. Additionally, many new occupations demand more people skills, and there are fewer routine, mechanical tasks – much of this work has been automated.

While increasing use of automation will eliminate more jobs, those that remain will become more technologically demanding. Working with robots and other technology will intensify the computer use demands of many jobs. As well, the demand for reading skills is expected to grow as firms adopt these more knowledge- and information-intense technologies of production and work organizations.

Even long-term jobs have new requirements for more essential skills: to be creative, think critically, make decisions and work in high performance, multi-disciplinary teams. Virtually every job in the economy requires some form of computer skills. Jobs that used to be considered menial are “menial no more.”¹⁰

All of the above have contributed to an increased need for most people in the workforce, and for those seeking to enter it, to have better essential skills.



HIGHER LEVELS
of ESSENTIAL SKILLS
benefit

INDIVIDUALS & EMPLOYERS

Individuals with higher levels of essential skills learn better, earn more and are in better health

Essential skills are essential for living and learning, as well as for working.

The essential skills are the fundamental skills for learning. Reading, writing and arithmetic are the skills we need to master first so we can succeed in other learning. Being a fluent reader by early Grade 4 improves the chances of a student staying in school. Students in post-secondary institutions do better if they have higher essential skills at the start of their programs.

First we learn to read, then we read to learn. Essential skills development hinges on first becoming a fluent reader.

Essential skills are as beneficial to individuals as to the firms that employ them. Research shows that, “[l]ower skilled individuals are far less likely to have worked in the course of a year, work fewer weeks per year, are more likely to experience a spell of unemployment, experience more and longer periods of unemployment, work more hours per week when they are employed, and have lower wage rates.”¹¹

Earlier research showed that of all the factors affecting wages, literacy skill is the biggest, accounting for one-third of wage differences.¹² Employers pay more for people with higher literacy skills.

Literacy skills are also directly related to health outcomes. People with higher skills on average experience better health. Moving all adults to Level 3 on the literacy scale would generate hundreds of millions of dollars in savings on health expenditures by government.¹³ Besides doing better in the labour market, workers with relatively higher

skills experience less workplace illness and fewer accidents. This is obviously hugely beneficial, both financially and personally, to individuals as well as their employers.

Poor literacy levels impose burdens on both individuals and firms. Lower-skilled individuals face higher probabilities of workplace illness and accidents, as well as periods of unemployment, and lower wages and benefits.

Employers benefit from high levels of essential skills in their workforces

The skill shortages identified in this report have huge implications for the economy in the West and at the national level. The ILO says:

“Ultimately, each country’s prosperity depends on how many of its people are in work and how productive they are, which in turn rests on the skills they have and how effectively those skills are used.”¹⁴

The major benefits to the employer and the broader positive impact on the economy of investing in essential skills are illustrated in **Figure 10**.

Increases in productivity and improved workplace safety are two of the greatest direct benefits to the employer. A Conference Board of Canada study found that 79 per cent of respondents observed an increase in productivity and 82 per cent associated improved health and safety as a result of a workplace essential skills program. Other benefits highlighted in the report included reduced absenteeism, greater teamwork amongst employees to produce quality work and a reduction in errors.¹⁵

FIGURE 10: BENEFITS OF ESSENTIAL SKILLS TRAINING



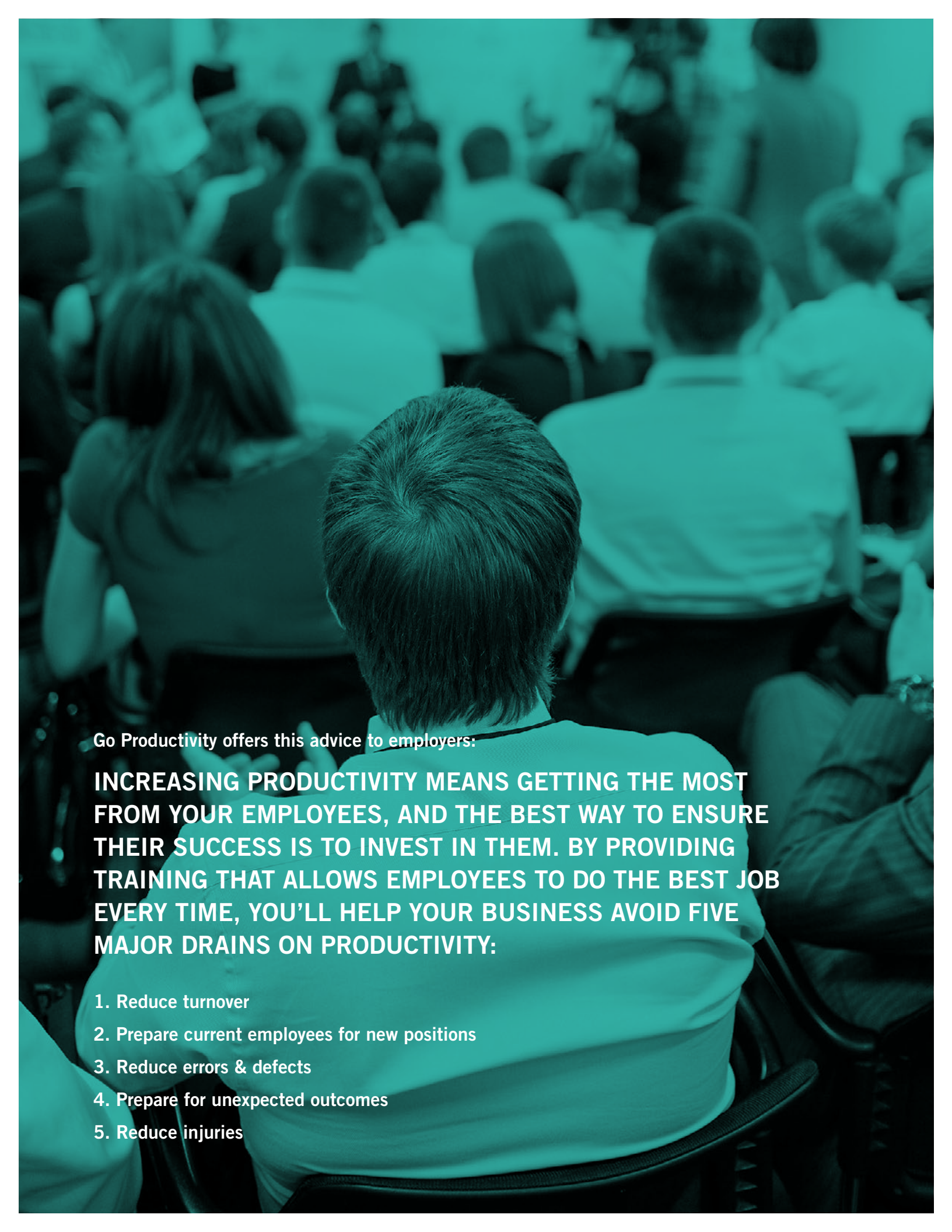
The C.D. Howe Institute reports that a one per cent rise in a country's literacy level, relative to the international average, is associated with an eventual 2.5 per cent rise in labour productivity and a 1.5 per cent rise in per capita gross domestic product. This one per cent increase in literacy rates would boost Canada's income by as much as \$27 billion (2012 figures). These outcomes are three times the returns from investment in machinery and other physical capital.¹⁶

In the West, there is a huge opportunity to raise productivity levels by increasing skills. The benefits of doing this, as shown above, would be broad and deep.

A recent study by McKinsey & Company asserts that raising the productivity of employees whose jobs can't be automated is the next great performance challenge facing

employers.¹⁷ These workers spend all or most of their time interacting with clients or coworkers. Better competence in all of the essential skills improves these types of interactions. According to McKinsey, companies that get it right will build complex competitive advantages over their rivals. Across Canada, across the board in all sectors and occupations, the rate at which people do not have these skills makes it difficult to build that advantage.

To add to the business case, a recent study, discussed later in the paper shows the benefits include higher productivity, fewer accidents, less material wastage and higher service quality. When we are looking for answers to productivity gaps, many employers might not need to look further than this.



Go Productivity offers this advice to employers:

INCREASING PRODUCTIVITY MEANS GETTING THE MOST FROM YOUR EMPLOYEES, AND THE BEST WAY TO ENSURE THEIR SUCCESS IS TO INVEST IN THEM. BY PROVIDING TRAINING THAT ALLOWS EMPLOYEES TO DO THE BEST JOB EVERY TIME, YOU'LL HELP YOUR BUSINESS AVOID FIVE MAJOR DRAINS ON PRODUCTIVITY:

1. Reduce turnover
2. Prepare current employees for new positions
3. Reduce errors & defects
4. Prepare for unexpected outcomes
5. Reduce injuries

EMPLOYERS & EDUCATORS
are CONTRIBUTING *to*
ESSENTIAL SKILLS
SHORTAGES

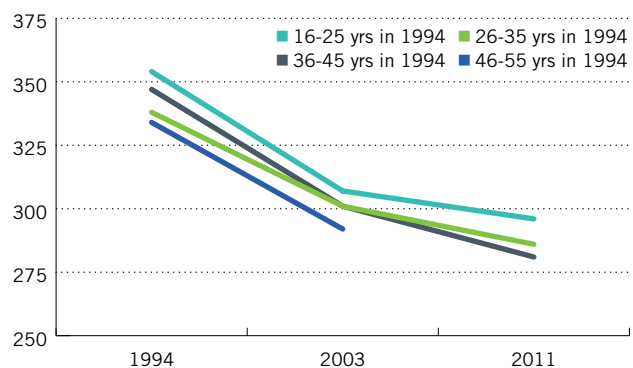
There are a number of plausible reasons why there is a shortage of essential skills across occupations, throughout the West. This study did not empirically test the reasons laid out below, but the authors posit that they contribute to the situation.

Underutilization of skills

Over the last 20 years, the implementation of various management processes has resulted in short-term productivity gains. However, in some instances, this productivity gain has come from narrowing the scope of jobs, requiring each worker to master fewer tasks. These changes in effect reduce the levels of skill required to perform these jobs. Lowering demand for skill has the unintended consequence of reducing the supply because, except for bicycle riding, people tend to lose skills they are not using.

This de-skilling of jobs exacerbates a pre-existing problem: some longstanding jobs in the Canadian economy have not required high levels of skill in the first place and actually contributed to skill loss in workers over decades. **Figure 11** shows that average literacy scores of working-aged Canadians have been declining. The figure shows the decline in literacy scores on the 500 point scale by cohort over the last three international studies. The results have been standardized to the 2011 composition, to account for the overall increased levels of education we have achieved in Canada over the last 20 years. The drop in average literacy scores over the last two decades for each age cohort is more than 50 points – equivalent to one whole level of literacy skills.

FIGURE 11: DECLINE IN AVERAGE LITERACY SCORES BY AGE COHORT



Source: PIAAC, 2011; International Adult Literacy Survey, 1994; Adult Literacy and Life Skills study, 2003

When faced with pre-existing essential skills shortages in their workforce, employers may compensate by adjusting production technologies and the way that work is organized. For example, they might acquire machinery and equipment that requires lower worker skills or introduce more levels of supervision. Some workplaces are designed to reduce complexity to a very low common denominator – using icons to indicate where to place tools, for example. While these processes make work easier in the short run, they do nothing to make employees capable of being more productive and may make the adoption of production-enhancing technologies more difficult in the future. Sometimes management practices are applied incorrectly, increasing the need for supervision and inadvertently reducing skill levels in the workplace.

“Management practices like ‘Lean’ relieve workers of the more mundane aspects of their work. Lean practices applied correctly expect workers to manage their work and solve problems without the need for supervisor intervention. Lean workplaces are supposed to allow for fewer, more capable workers and far fewer managers and specialists, thereby increasing productivity and quality while reducing cost.”¹⁸

Using lower-level production technologies reduces productivity. In the long run, employers may have to reduce wages and benefits commensurately or risk losing business to overseas competitors. Large numbers of low-skilled or easily routinized Canadian jobs have been moved overseas. In spite of recent repatriation of some manufacturing jobs, as developing countries rapidly educate their populations more jobs will be lost in coming years. Canada faces global competitors that have lower labour costs, can access all of the other inputs of production at the same cost as Canadian businesses do, and who can select from much larger pools of workers with the needed skill levels. Unless we raise our productivity levels, the inevitable long-term result will be further loss of jobs that only require the application of routine procedural knowledge, and ultimately, falling living standards in Canada.

One way to replace the lost jobs and to slow the rate of job loss is to increase the knowledge and skill intensity of our jobs. These actions will increase productivity, and ensure that higher-paid Canadian workers are adding more value to the goods and services they produce.

Lack of attention to the essential skills in education systems

Language and literacy skills begin at birth and are developed initially at home; parents are their children’s first teachers. The quality and quantity of spoken words affects a child’s language development.¹⁹ Children who are read to from a very early age are more likely to have future literacy success. The quality of available early childhood experience and education therefore has an impact on a child’s capacity to develop skills.

However, the bulk of literacy and essential skills learning occurs in the three levels of our formal education systems. Teaching literacy is primarily a mandate of K-12 systems. Generally, we would expect the literacy levels in society to rise over time, as successive cohorts of students leave the secondary system. This has been true in the past as higher proportions of each generation achieved high school graduation. Post-secondary education and participation in various forms of adult learning also have a marked impact on the development of literacy skill.

It is disappointing then that, based on the PIAAC scores, the absolute numbers of adults with Levels 1 and 2 literacy skills will increase at least in the short term, and the proportion of adults with Levels 1 and 2 skills will stay the same for at least the next few years, according to our research. Skills shortages will not be reduced through the education system in the medium term. The projections suggest that employers will have increasing difficulty in finding workers with the literacy skills they need.

While the various provincial K-12 systems have the mandate to teach the basic skills – reading, writing and arithmetic – not enough emphasis has been placed on ensuring that every child achieves these basic skills early enough in their school years. If students do not have a good foundation in basic skills, then further learning suffers. The data show that even some recent high school and post-secondary graduates do not have skills expected after 12 or more years of schooling. Higher graduation rates are being seen across the West, but if literacy and numeracy skills are not mandatory for graduation, then larger numbers of graduates will not improve overall skill levels.

Across the West, jurisdictions have begun to make changes in the way they teach and assess learners. Education departments have acknowledged that the old ways of teaching are not well suited to the students they are teaching today. Technology savvy, networked, diverse, multi-lingual – the students in many of today’s classrooms differ enormously from those just a decade ago.



TAKING ADVANTAGE *of the*
OPPORTUNITY

Overall, we have a highly skilled workforce, although there are shortages of technical skills in specific areas. However, the data show that across the West, literacy and the related language, numeracy and problem solving skill levels are not adequate for the knowledge economy's more demanding and productive jobs. Solutions are available. Individuals, employers, education providers and governments should all contribute to these solutions.

Individuals

Essential skills are important to living and learning as well as working. Individuals, therefore, are likely to be the main beneficiaries of any investment they make in raising their skills and as such should finance their own skill upgrading. Essential skills upgrading programs are available in local communities, in colleges and online. Ideally, but rarely, development of these skills is incorporated into other learning.

However, many people don't have enough incentive to make these investments, likely for the following reasons:

- There are few ways for individuals to come to an understanding that they have poor literacy skills – low-level readers do not associate the issues they face in their lives with their lack of skills.
- Even if they do increase their skills, employees have no guarantee that if they stay in the same job their employers will pass along their share of the productivity benefits to them.
- Individuals also have access to little information about which of the available training providers offers the most efficient, effective and satisfying instruction.

- A significant proportion of those needing skill upgrading may feel they lack the financial resources to invest in improving their literacy even with the promise of significant returns.

People who keep up their literacy activities at home will lose skills at work more slowly, and keep those gained at work longer. Hard-earned literacy skills, just like muscles, need to be maintained.

Employers

Employers may need to take the lead and invest in skill upgrading for their workforce when their workers do not do so themselves.

Employers could be expected to assist in financing the needed skill upgrading as they are also primary beneficiaries of any resultant productivity growth. In some cases, employers may need to bear the full brunt of the cost, especially for low-income jobs where workers themselves cannot afford to pay for training. Costs for the workplace essential skills upgrading program discussed later averaged about \$2,500 per worker, and the return on investment was 26 per cent in the first year. This ROI is repeated annually, as long as the skills are utilized and the worker remains employed. This quality workplace training included an in-depth needs assessment, well-developed curricula and skilled training providers. It worked best in firms where there was a culture conducive to learning. Duplicating these results is possible if training is done under similar conditions.

Increases in labour productivity gains required to remain competitive in the global economy will be further realized if the skills demanded by jobs in the local economy increase. Having a higher skilled workforce enables an employer to increase the levels of technology used in the workplace, to reorganize the work processes and to reduce supervision. Higher wage employees in Canada must add increased value in the global marketplace, as lower paid workers in other countries eagerly take on lower skilled, lower value-added jobs. If Canadian workers do not have the required level of skill to be more productive, then employers will need to invest in their workforce, just as they would invest in capital equipment.

Workplace training

Actions that should be taken by education systems are discussed later in this paper; in the long run, much of the shortage of essential skills could be overcome by these systems. In the meantime, to better equip workers entering or currently in the workforce, workplace training should become a major avenue for increasing essential skills levels.

Canadian employers recognize a skills shortage exists and the benefits of quality training to employers are clear. Yet in 2011, on average Canadian employers spent only 64 cents on training for every dollar spent by U.S. firms.²⁰ At a time when skill demands have been rising, investment in employee training by Canadian employers has not kept up.²¹

Through this study, the Canada West Foundation held small roundtables with employers in the manufacturing, logistics and hospitality industries. Most employers we talked to pointed to workers having weak communication, interpersonal, writing and computer literacy skills. These challenges were exacerbated for employers in the hospitality industry, where new Canadians are filling a large number of jobs. Some of them have limited understanding of the English language and, thus, poor communication skills.

Employers reported that they hesitate to provide training in the workplace beyond that which is necessary for safety and basic orientation. One of the commonly heard reasons for this is the concern that newly trained employees will not remain with the organization. It is not unusual for an employer to say, “If I train them, they will just leave.” A suitable retort might be, “What happens if you don’t train them and they stay?”

Poor retention rates are particularly problematic in areas with tight labour markets, where poaching of employees is an acknowledged recruitment strategy. Some recent studies, however, show considerable rates of return on investment in essential skills training, including increased employee retention. As discussed earlier, there are both hard and soft benefits to increasing workplace essential skills levels felt directly by employees and the company and other, broader, indirect impacts on the economy as a whole.

When an employer does provide essential skills training, either in the workplace or through other providers, their investments are more effective when paired with other initiatives. Recent research shows the return on investment improves when employers change their work processes, organization and technologies of production to make full use of the newly available skills.²² Employers who have hesitated to invest in new technologies that improve productivity, because they were aware that their employees did not have the skills to handle the technology, could see even better results if they were to invest in both the new technologies and skills training.

UPSKILL results

The UPSKILL study, completed in 2014 by Social Research and Demonstration Corporation, provides the most rigorously tested results from a workplace essential skills training program to date. This national randomized controlled study in the hotel accommodation industry proves that the return on investment for training of this kind can be large. More results are shown in the appendix. A sampling of the results after an average of only 20 hours of training for the participants includes:²³

- Increased essential skills levels – specifically in document use, literacy, numeracy and oral communication
- Gains in productivity, work organization and teamwork
- Higher success rates in industry performance certification
- Significant gains in job performance and service quality
- Higher rates of job retention
- Increased earnings
- Lower levels of periods of unemployment
- A reduction in required supervision

Support for training outside the workplace

The cost of training and the time it takes employees away from productive work are often cited as reasons for why employers do not provide more training beyond that required for safety and orientation reason. The employers interviewed for this study share these views. Some employers may be willing to share the cost of training if it can be provided to a cluster of similar employers in a tight geographical area. For instance, some manufacturers in the Nisku region of Alberta suggested that this approach may work if they were not too inconvenienced by the training, did not have to give up more than a couple of employees at a time, and that the training was packaged to make it available without much time or attention on the part of the employer. Employers are focused on the work at hand and do not have much time to plan for the workforce required in the future.

Canada Job Grant

The federal government recently introduced the Canada Job Grant, implemented through bilateral agreements with each province. Through the program, up to \$10,000 per employee is available for training costs if the employer pays one-third of the cost. The program, designed to assist employers to train the workforce they need, is eligible to be used for essential skills training. However, employers have to instigate the request for funds to be used to improve the essential skills of their employees. If the UPSKILL training highlighted above had been funded through the Canada Job Grant it would have resulted in 164 per cent return on investment to the employers in the first year alone.²⁴ Training through the Canada Job Grant must be provided by a certified training organization. While it is possible to have the training done at the worksite, to date most training in this program is situated off site.

As with any training that is supported by employers, a needs assessment to determine exactly what essential skills training is required, by which employees, and to what level, should be undertaken prior to implementation. Qualified training providers should be contracted to deliver the training. The UPSKILL study highlighted earlier and discussed further in the Appendix clearly found that a needs assessment is crucial for success. The study also demonstrated that training does not stick in a workplace where the culture is not prepared for training or the change that comes with it.

Post-secondary institutions

Various types of post-secondary institutions have differing mandates. Except for their professional faculties, universities have not been designed or required to be places that train students for the workforce. On the other hand, colleges and polytechnics have programs designed specifically to develop job skills in their students. University students are increasingly looking for more job skills to be included in their programs. Employers who are looking for specific skills, especially those they consider job readiness skills, are pushing post-secondary institutions to improve their skills training outcomes. Co-op placements, work terms and internships are providing some on-the-job training needed to bring a new graduate up to entry level requirements. Ironically, post-secondary schools find these placements hard to find for their students. Employers want job ready candidates, but are not always willing to share the burden of job readiness training.

The Canada West Foundation reported in its recent paper, *Talent is not enough*, that some post-secondary schools are including competencies in their programming – including some essential skills training.²⁵ More of this is required. Embedding literacy and numeracy training into college curricula, or offering intensive programs prior to students embarking on their studies would improve learning outcomes. Bow Valley College, in Calgary, for example, offers academic upgrading for students who are aware that their literacy and numeracy levels are below what is needed to do well in their programs, but these courses are for self-selecting students. Assessing all the learners as they enter college programs and then offering training to fill gaps is needed to improve graduation rates and learning outcome.

A recent study by the Higher Education Quality Council of Ontario (HEQCO) measured post-secondary education outcomes across the country. Literacy and numeracy scores were used as an outcome indicator. The authors concluded that, “We must do a better job of collecting and reporting relevant, meaningful information about the state of Canadian education systems and institutions, their performance and their outcomes.”²⁶ If the post-secondary sector takes up HEQCO's challenge, and strives to improve the outcomes indicators used in this study, then assessing and improving the literacy and numeracy scores of their graduates would be the ultimate result.

School systems

Provincial K-12 systems are experiencing increasing diversity and complexity in their classrooms and are adjusting their teaching methods and curricula to meet the needs of their students. They are also placing an emphasis on the broad range of essential skills. These adjustments will take time to have an effect on the workforce.

In Alberta, the Inspiring Education initiative determined that a renewed emphasis on the basic competencies was important and curricula are being developed to ensure they are built throughout the school years.²⁷ Similarly, in B.C., a new action plan for education will also focus on these competencies.²⁸ In Saskatchewan, there is a new Education Sector Strategic Plan which sets goals for increased student success in reading, writing and math.²⁹

A child needs to master many competencies in primary education. All will prepare them for further learning. None will do more for that learning than becoming a fluent reader with good comprehension skills. Education systems must continue to make this a priority for every learner. It is imperative to ensure that literacy skills are embedded in the curricula throughout the K-12 system and that these skills are assessed at every stage. When a learner has problems, everything possible should be done to ensure that they overcome them – quickly. Almost every child has the capacity to learn how to read to some level. The basic literacy skills are a prerequisite for gaining the other essential skills and so every child should be supported to learn to their highest level so that they have skills for their lives, their further learning and their work.

Falling PISA results show that shortages are not going to go away soon

The Programme for International Student Assessment (PISA), conducted by the OECD every three years, measures reading, math and science of secondary students at age 15. Canada has typically scored well compared to its OECD counterparts. 2012 PISA results for Canadian 15-year-olds show reading, mathematics and science scores above the OECD average. However, the mean scores for all three indicators have

decreased since 2009, with math scores decreasing the most.³⁰ Manitoba and Saskatchewan are below the Canadian average in math; B.C. is above; and, Alberta is slightly below the average. Canada's placement in the rankings is also dropping, as parts of the world, noticeably Asia, are concentrating more on these competencies. The OECD reports that math skills are an indicator of future earnings.³¹ Improving reading and math skills in our young people should be a major focus.

Executive Governments

Labour ministries

Earlier, this paper outlines many of the benefits to both individuals and firms that come from adequate essential skills levels. With productivity and competitiveness at the top of every business agenda, employers need to recognize the link between essential skills and their productivity concerns. As previously outlined, other countries are increasing the skills of their workers, have average pay that is less than Canadian firms, and can access other inputs of production at the same or lower prices as Canadian firms do. Canada must increase the average skill of its workforce or it will simply not have a workforce that can compete for attractive jobs.

Research by McKinsey suggests that the productivity gains needed to compete globally might only be realized by raising the ability of a typical worker to solve problems, communicate efficiently in high-performance teams and apply the most advanced information-rich production technology at globally competitive levels.³² More simply, workers need the advanced skills required to apply their technical skills at global levels. Workers in mature western economies need a minimum of Level 3 literacy skills, a level that 49 per cent of adults in Canada do not have.³³

Given the slow uptake on essential skills training by employers in some provinces, governments may also need to do more to induce employers to invest in skill upgrading. Providing information about, supporting and sharing the cost of training programs would at least raise awareness of these shortages and their impacts on employers. One avenue to increase skills in the workforce, the Canada Job Grant, is

being rolled out across the country. This federal government sponsored training program reimburses employers two-thirds of the cost of training, up to \$10,000 per employee. The agreements with the provinces have made it clear that employers are to choose exactly what kind of training is required. While essential skills training has been shown in this paper to be required in many workplaces, of the four western provinces, only B.C. specifically suggests in its program fact sheet that essential skills training would be covered under the Canada Job Grant. Employers are generally unaware that embedding essential skills training into other types of training could mitigate many of the difficulties they are encountering in their workplaces. An opportunity to educate and potentially support employers has not yet been realized. Labour ministries could provide this information and support. Labour ministries should also create incentives for firms to increase the knowledge and skill intensity of their jobs as a means to ensure that any new skill supply gets picked up and put to good use.

Many would also benefit if governments funded literacy skill assessment and upgrading for unemployed adults. This would facilitate their entry in the labour market and would increase their productivity once employed.

Education ministries

Many public policy makers have assumed that the proportion of adults judged to be at risk of having low literacy skills will fall steadily over the coming decades in response to increases in the average quantity and quality of education over an individual's lifespan. On the face of it, this would seem to be a reasonable assumption. Average years of schooling have been rising steadily over the past decade. Rates of participation in post-secondary education and adult education and training have been rising, as well.

However, the proportion of youth leaving the secondary system with only Level 1 and 2 skills, as defined in **Figure 9**, is close to 40 per cent, despite the fact that 85 per cent of all youth go on to some form of post-secondary education. At a minimum, this finding is bound to reduce the public and private returns on post-secondary investment and, ultimately, long-term rates of productivity growth. It is estimated that

fully 49 per cent of the adult Canadian population aged 16 and older have only Level 1 and 2 skills. Half of our adult population lacks the literacy skills to compete fully and fairly in the emerging knowledge-intensive global economy. In the West, that figure ranges from 45 per cent in Alberta to 50 per cent in Saskatchewan.³⁴

The education system must reduce the flow of low-skilled readers into the workforce. Thus, we should implement measures in K-12 education systems that reduce the numbers of students leaving the system with only Level 1 and 2 skills. This would involve ministries providing schools with adequate and efficiently applied funding, effective assessment and remedial instructional tools, including appropriate curricula. Improving training programs for teachers is especially important – many programs do not adequately prepare teachers to teach reading and numeracy skills. Unfortunately, given the lag time in implementing such changes and positively affecting outcomes for students, it could take anywhere from 12 to 16 years for such a strategy to bear fruit. In the interim, literacy skill could be increased by investing in adults. Colleges and universities could help by assessing and upgrading the essential skills of their students as needed to guarantee that they have the skills needed to compete in the global economy.

The essential skills are competencies required by every job to some level. Being certified as having competencies in these skills would make it easier for the graduates of our education systems to transition into work. It would also provide employers the assurance they need that their new hires have the skills required for the job. The Canada West Foundation has published a paper on the value of competencies, *Competence is the best credential*, in which competencies frameworks are recommended.³⁵ The essential skills would be an obvious set of competencies to use as we begin moving towards competency credentialing. Education ministries are well placed to institute competency frameworks as part of their funding and accountability frameworks.

Ministries supporting non-profit providers of essential skills training

At the provincial level, workplace essential skills training is supported through a variety of programs and organizations. Workplace Education Manitoba, Workplace Essential Skills Saskatchewan, Alberta Workplace Essential Skills and Decoda Literacy Solutions in B.C. all receive some support from their respective provincial governments and to a varying extent from the federal government. Other non-profit organizations, such as SkillPlan in B.C., provide consulting and essential skills resources and training to various sectors. Although essential skills have been promoted for more than 20 years, there is still too little understanding of the need for training, too few fully qualified practitioners and too little support for training. On an annual basis, a tiny proportion of the potential learners are involved in essential skills training. Further support to these organizations would help to reach some of the most difficult-to-reach learners, many of whom are unemployed or underemployed.

Community-based adult learning programs should also be better utilized. Unemployed adults who have Level 1 and 2 literacy skills must be given opportunities to upgrade their skills and become employable. This would involve federal, provincial and territorial governments increasing support and funding for literacy skills programs.

As discussed earlier, literacy skill is distributed unequally among industries and occupations, a finding that reflects the intrinsic differences in literacy skill demanded by different jobs. This skill is also distributed differently amongst different subgroups. Those without a post-secondary credential, Aboriginal people living on reserves, and immigrants with a mother tongue other than English or French are especially likely to have low literacy skills. Given the results of this study, targeted programs designed with the specific needs of demographic subgroups could also be offered.

Other studies have shown a variation in the estimated rates of return on upskilling these subgroups.³⁶ The research concludes that investment in Aboriginal populations would yield above average returns and investment in upgrading the literacy skills of all the disadvantaged subgroups would have a material impact on their personal and economic welfare.

Pathways to building essential skills

The Canada West Foundation published *Talent is not enough* in 2014. This paper outlined six pathways for success in building the skills needed by employers, including one for building the essential skills. This pathway is replicated in **Figure 13**. The need for action by industry, education providers and governments and the actions recommended are similar to those in this paper and bear repeating.

FIGURE 13: PATHWAY TO IMPROVING ESSENTIAL SKILLS

	INDUSTRY	EDUCATION PROVIDERS	GOVERNMENT
PATHWAY #2 Commitment to Essential Skills (ES) development	<p>Consider practice of hiring for attitude and training for skill by providing:</p> <ul style="list-style-type: none"> → Internal language and ES training for existing employees, OR → Funding for existing employees to enhance their language and ES in external programs, AND → Training as part of hiring new workers. → Adjust job descriptions and practices to ensure skills are maintained. 	<p>K-12 & POST-SECONDARY SYSTEMS:</p> <ul style="list-style-type: none"> → Incorporate ES competencies into all learning. → Assess ES of all graduates. → Hold selves accountable for ensuring students have the ES needed to succeed in other learning. <p>K-12 SYSTEM:</p> <ul style="list-style-type: none"> → Renew emphasis on literacy and numeracy in all curricula. → Ensure adequate funding of programs that focus on the essential skills component of career preparation. → Require ES competencies be incorporated into relevant government funded education and training programs. → Hold systems accountable for ES skills of graduates. 	<ul style="list-style-type: none"> → Ensure adequate funding of programs that focus on the essential skills component of career preparation. → Require ES competencies be incorporated into relevant government funded education and training programs. → Hold systems accountable for ES skills of graduates.

Source: Talent is Not Enough, CWF 2014

LAST WORDS

The opportunity to raise our productivity levels by investing in skills training in the K-12, post-secondary and community education systems and on the job has never been more apparent – or more important. If Canadians want to improve productivity, maintain competitiveness in the global economy and continue to justify comparatively higher compensation packages, we must perform jobs at higher levels with adequate levels of essential skills.

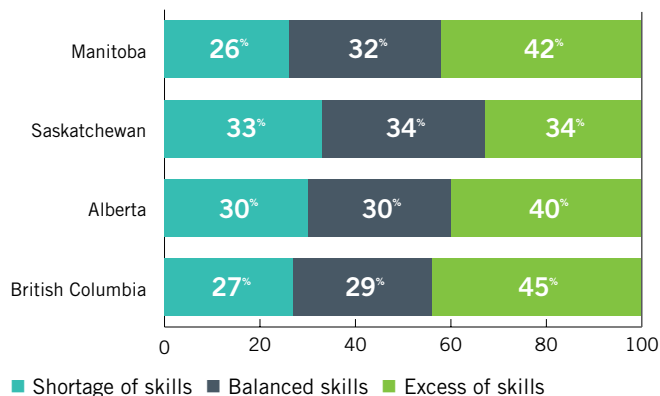
Excess skills present a lost opportunity

While the main message of this paper is that there are skills shortages across the West that are causing lower productivity rates, it is also true that some people have more skills than their jobs demand. Excess job skills are found to varying degrees across demographic subgroups, most notably in youth. Up to 40 per cent of young people aged 16-25 in each province have excess skills for the jobs they are doing (**Figure 12**). A big skill mismatch in the early stages of a career is also hugely problematic. As mentioned earlier, underutilized skills tend to diminish and will deteriorate over time. The longer an individual is in work that asks less of them than they have to give, the more likely it is that their hard earned and expensively taught skills will be eroded.

Our data confirm the extent of underemployment of youth in terms of essential skills. There is irony in the fact that employers are calling for more skilled workers at a time when there are large numbers of highly skilled young people working in lower-skilled jobs. Adequate labour market information, appropriate career counselling, sufficient spaces in post-secondary programs of all kinds, including apprenticeships, and work experiences during education would all contribute to better use of the talent and skills of our youth.³⁷



FIGURE 12: SKILL CAPACITY OF 16-25 YEAR OLDS FOR THEIR JOBS (%)



Source: NHS, 2011 with imputed skill scores based on PIAAC, 2011 and ES profiles

HIGHLIGHTED STUDY

UPSKILL: A CREDIBLE TEST OF WORKPLACE LITERACY AND ESSENTIAL SKILLS TRAINING

The most recent and reliable study confirming the benefits of essential skills training was performed by the Social Research and Demonstration Corporation (SRDC), an Ottawa-based, non-profit organization specializing in social experiments and demonstration projects that test various programs and government policies. SRDC performed a multi-year, national, randomized controlled trial to study whether literacy and essential skills (LES) training offered in the workplace would reduce skills gaps and to quantify the return on investment of LES training for employers and employees. This type of study is expensive, but is the gold standard for social science research and provides extremely reliable results. The study, funded by the federal government (Employment and Social Development Canada) was called UPSKILL and involved 100 firms across the Canadian hotel industry.³⁸ Participants were given just 20 hours of training on average, but the study provided empirical evidence for many of the benefits outlined earlier in this report. The highlights are as follows:

Study background

- The vast majority of the participating firms were small- and medium-sized enterprises, with 86 per cent of the hotels having fewer than 200 employees. Only one of the firms in the training program (and two in the control group) withdrew during the study.
- The essential skills training curriculum was designed to meet specific business needs of the industry and was adapted to individual firms.

- Most of the participants received less than 20 hours of training, with 53 per cent receiving 15 to 20 hours of training.

Results for participants

- Participants in the program group achieved increased Document Use and Literacy scores after the training, and these scores increased for as long as a year afterwards as participants used their higher levels of skill.
- More participants in the program group had Level 3 Literacy and Document Use scores at the end of the training than in the control group. (See **Figure 2** for a description of Levels and what they mean.)
- Program group participants were 12 per cent more likely to surpass industry standards of work safety than the control group.
- Participants were likely to have worked nearly four weeks more in the year they received the training than those in the control group and were less likely to have experienced a period of unemployment.
- Reduced workplace stress levels were reported by 25 per cent more program group members than control group members.
- Benefits were experienced across the mix of workers but were most apparent in those with lower levels of skill prior to the training.

Results for Employers

- For the UPSKILL firms participating in the training, the quantifiable benefits listed below provided a 23 per cent rate of return on training investment.
- Workers who were in the program group were more likely to meet the literacy requirements of their jobs following their training.
- Job performance improved in UPSKILL program group members, as measured by a greater breadth of service quality, improved customer relations and increased task efficiency.
- Compared to the control group, the program group had a substantial increase in the number of employees able to meet industry certification standards of job performance.
- Job retention was up in the program group by eight per cent over the control group. In an industry where turnover is usually very high, this reduces costs associated with recruiting and training new staff.
- Thirty per cent more program group firms than control group firms reported increases in guest satisfaction levels, and three times as many firms in the program group reported significant reductions in customer complaints than in the control group.
- There were reductions in waste and error rates in the program group. Those amounted to about \$1,000 per participating employee during the year following enrolment in the program for the program group and savings in reduced supervision time of another \$1,500 per employee.
- Other benefits for the program group included increased customer loyalty, increased occupancy and incremental increases in food and beverage sales.
- Higher levels of benefits were experienced by firms with greater business needs, especially by those with a strong learning culture and a commitment to training. The level of trust within the workplace and a commitment by the employee to learning was also found to contribute to increased benefits for both employees and their employers.

Benefits for Governments

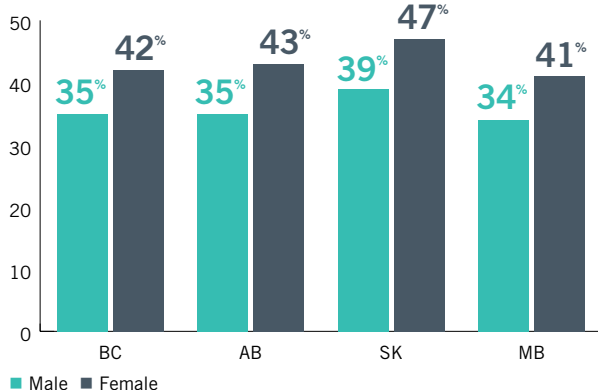
- Because participants in the training worked longer and corporate revenues increased, government benefits included increased income through corporate and sales taxes, as well as slightly reduced Employment Insurance benefits payments.

APPENDIX

Gender

The discrepancy between genders is noticeable in all provinces. In B.C., 34 per cent of men and 42 per cent of women are statistically likely to have a shortage of literacy skills for their jobs. This is interesting and problematic, as the jobs with the highest percentage of women in them continue to be more people-oriented jobs, i.e. nursing, teaching, sales and service, administrative, and clerical.³⁹ These jobs demand a minimum of Level 3 skills; nursing's most demanding tasks demand Level 5 skills. As women are entering into the workforce at a faster rate than men, overall skills shortages may increase further.

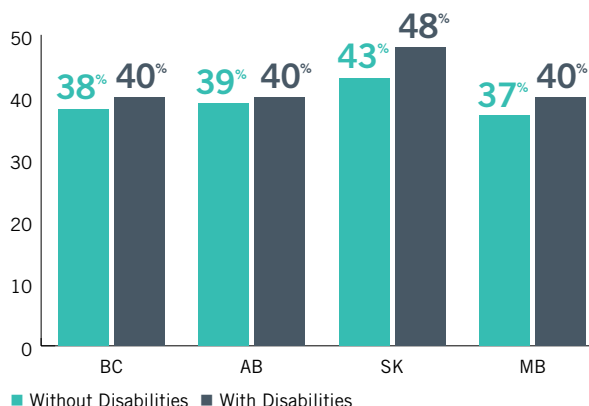
FIGURE A1: WOMEN EXPERIENCE HIGHER SHORTAGES THAN MEN (%)



Disabilities

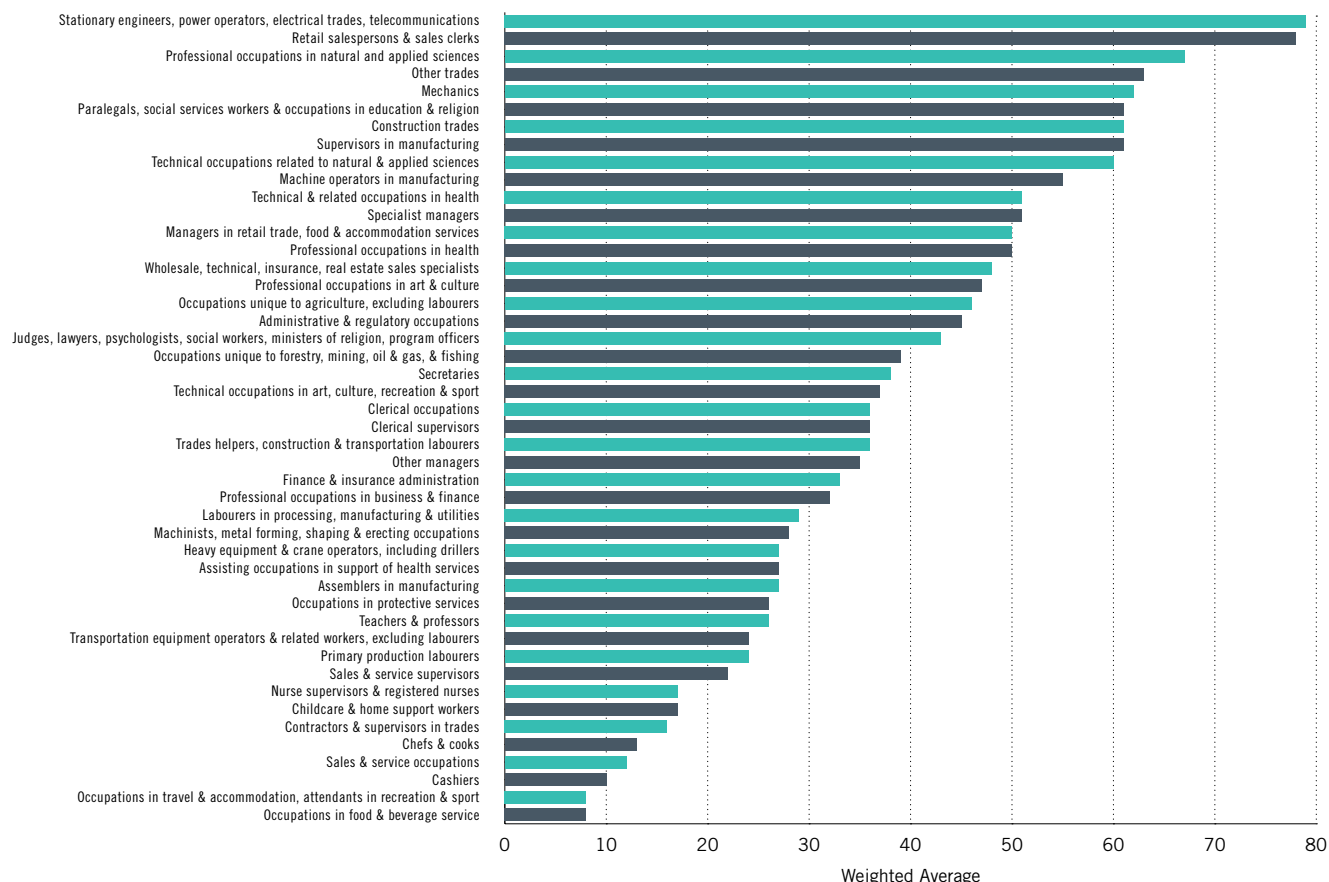
A better story can be told about persons with disabilities. They are increasingly being drawn into the labour force, especially in places where unemployment rates are low. **Figure A2** shows the discrepancy between persons with disabilities and those without is generally small.

FIGURE A2: PERSONS WITH DISABILITIES HAVE ONLY SLIGHTLY HIGHER LEVELS OF SHORTAGES THAN PERSONS WITHOUT (%)



Source: NHS, 2011 with imputed skill scores based on PIAAC, 2011 and ES profiles

FIGURE A3: ESSENTIAL SKILLS SHORTAGES ACROSS OCCUPATIONS (Western provinces, weighted average)



Source: NHS, 2011 with imputed skill scores based on PIAAC, 2011 and ES profiles

ENDNOTES

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