



# Rethink Skills

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## The Problem

Societal changes, including the global pandemic, social and economic disruption, and technological advancements, are redefining the demands of a modern labour force. As evidence, the *Organisation for Economic Cooperation and Development* (OECD) projects that 46% of employment will be either fully or partially automated. *Calgary Economic Development* projects that half of the jobs performed by Calgarians today could be at risk of automation over the next 20 years.

As evidence of this disruption, Calgary and Alberta today are paradoxically facing a talent surplus and a talent deficit. To compete in this new world, Calgary and Calgarians need to radically redefine when and how we will learn. **So, what are the skills that matter?**

**46%**

Of jobs in OECD countries at risk of being partially or fully displaced by automation

**91%**

Of hiring managers define adaptability as a core skill



MOUNT ROYAL UNIVERSITY

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**LearningCITY**  
COLLECTIVE



## The Solution

To confront the accelerating disruption, Calgarians need to rethink the skills that matter. For over 150 years, specific job skills, whether welding, computer programming, or healthcare, were viewed as most valuable by society because they generated direct economic value for employers. However, today, the skills required for jobs are constantly evolving and changing. Not surprisingly, employers now demand people who have the capacity to adapt, learn, and relearn. This forces all Calgarians to rethink the skills they must invest in to maintain their relevance in a dynamic labour market.

**3,063**

The number of learning and skill development organizations in Calgary

## Forget About Your Career

It was not long ago when people could map a long-term career path that would take them from graduation to retirement. But those times have changed. The pace of change today is exponential. As a result, employers are seeking people who possess the capacity to live with uncertainty, adapt to new roles, and learn new skills quickly.

This demands Calgarians to think differently about their future. In the past, having an academic credential was viewed by many as a ticket to career success. However, today value is defined not only by an academic credential, but also by real evidence of actual skills and the capacity to develop new skills in a timely manner. The result is career planning is now skills planning. This means you need to proactively identify the skills that will support your career goals and continuously develop and refine them.

**30,870**

The number of skills development programs offered annually in Calgary

**3.5M**

The number of experiences delivered annually in the creative arts

# What is a Skill?

A skill is the combination of aptitude, ability, and knowledge to complete a task. There are two major clusters of skills: job skills and enabling skills.

## Job Skills

Job skills are the skills needed to complete a specific job or task, which break down into functional skills and sectoral expertise.

### Functional skills

Functional skills, such as the skills to be an accountant, a project manager, or a welder, can be adapted to a variety of contexts. For example, accounting skills are valuable in big and small organizations or across diverse sectors.

### Sectoral expertise

Sectoral expertise refers to the skills required to apply functional skills in the context of a specific sector. For example, an accountant working in oil & gas requires specialized knowledge to apply their functional skills effectively.

## Enabling skills

Enabling skills (also known as soft, human, or transferable skills) are the skills that empower and enable adaptation across diverse personal and professional contexts. Enabling skills are more stable, and they are foundational to the development of job skills across sectors, roles, and functions.

5th

Calgary's ranking out of six major Canadian cities in proportion of population with postsecondary credentials

3rd

Calgary's ranking out of six major Canadian cities in proportion of population with university degree

6th

Calgary's ranking out of six major Canadian cities in proportion of population who completed credential out of province

## Job-Specific Skills

### Functional Skills

Problem Solving

Self Reliance

Collaboration

### Sectoral Expertise

Communication

Core Literacies

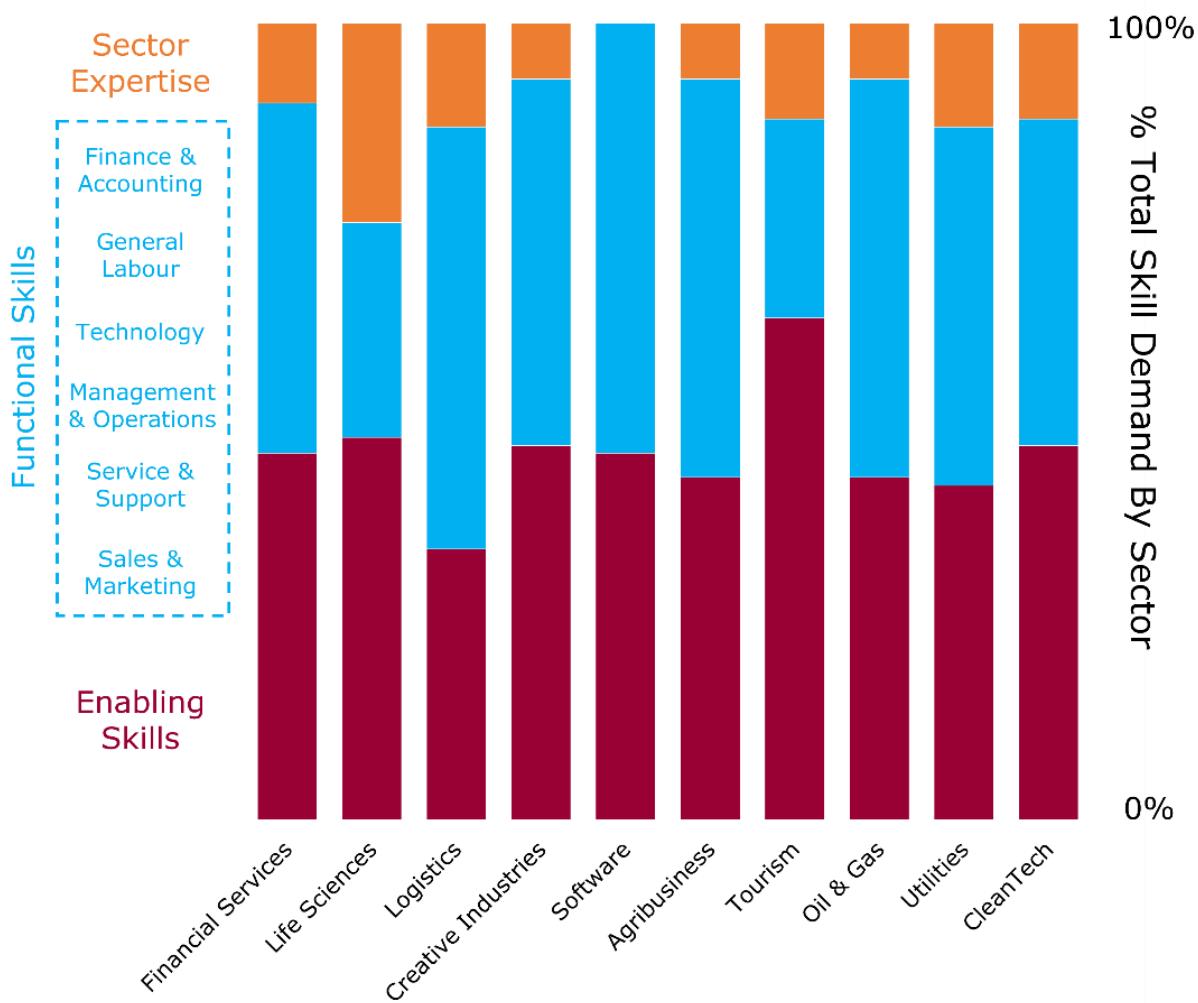
Core Workplace Skills

## Enabling Skills

# Rethink Skills

Historically, specific job skills were the most valued by employers as they were essential to generating short-term economic value. Moreover, an individual could monetize these skills over their working life. For example, if an individual developed the skills of a blacksmith as a teenager, these core skills remained stable over a 25–30 year working life.

However, many job skills have a short shelf-life in today's world. Now, most job skills must be constantly updated to retain their value. Moreover, the extension of life expectancy will increase working life to at least 50 years. This change requires a radical redefinition of when and how we will learn as we move from a life stage to a lifelong learning model anchored in adaptive learning. As a result, job skills are necessary but not sufficient alone. Similarly, enabling skills are essential but not sufficient by themselves. Going forward, the combination of enabling skills and job skills will define a person's value.



## Enabling Skills

The skills with the highest demand by employers are those that provide the maximum adaptive capacity. The skills demand audit conducted for *Calgary Economic Development* found enabling skills are **two to three times** in greater demand than job skills.

These foundational skills (e.g., problem solving, collaboration, communication) enable people to transition across various contexts. The audit also found that Calgary lags in the explicit development of enabling skills, highlighting an opportunity to increase the explicit development of enabling skills.

A person's adaptive capacity is anchored to enabling skills, including problem solving, self-reliance, communications, collaboration, core literacies, and core workplace skills. Enabling skills are foundational as they allow an individual to adapt across diverse personal and professional contexts. The value of enabling skills relates to the capacity they provide an individual to acquire and activate job skills. Therefore, possessing the optimal level of enabling skills provides the capacity to adapt to the changing skills demands.

The lack of explicit enabling skill development is rooted in a traditional perception that job skills deliver greater short-term economic value. As a result, skills developers may emphasize job skills. For example, research demonstrates that competitive sports contribute to the development of skills related to collaboration and teamwork. However, when analyzing sports and recreation programming, the development of these enabling skills is rarely explicitly identified. Many people participating in these programs may not recognize or value the skills being developed. As a result, this experience remains fully detached from an individual's skills development narrative.

*Lifelong  
training and  
continual  
skills  
upgrading are  
a reality in the  
future of  
work.*

Business Council of Alberta



## Functional Skills

This [study](#) also found that the demand for functional skills was between three and seven times greater than for sectoral expertise. Similar to enabling skills, the value of functional skills is horizontal, as it runs across the economy, providing maximum agility to people and organizations. Functional skills ranging from management & operations to marketing to accounting may be influenced by sector-specific contexts. But the findings of this study suggest most employers believe core functional skills, when combined with enabling skills, can be efficiently adapted and applied to the unique dynamics of sector, company, product, or service-specific contexts.

Functional skills are often contextualized for a specific sector or company. For example, a marketing role in financial services may require specific knowledge of the financial services market. However, this specialized knowledge is acquired through professional immersion in a sector and rarely in a classroom. This suggests informal skill development mechanisms, such as work-integrated learning, if designed with intent, provide the potential to accelerate adaptive capacity by developing both functional skills and sectoral expertise.

People who define their [professional identity](#) as anchored to narrow sectoral expertise face the daunting task of redefining themselves in periods of weak demand. This challenge was evidence over the past decade as the city faced high unemployment in oil & gas, and concurrently a skills shortage in growing fields, such as technology. Therefore, adapting is not merely about reskilling; it's also about adopting a professional identity as adaptive as an individual's skills.

## Competencies for Life



In 2020, a Calgary-based research team conducted a multi-staged study to identify the highest-demanded enabling skills. The first stage engaged 115 employers and educators to identify the highest-demanded enabling skills. The second stage tested these skills against four different enabling skills frameworks, including the Government of Canada, the Massachusetts Institute of Technology, Alberta Education, and the U.S. Bureau of Labor. This study identified a 93% consistency across 24 enabling skills in six clusters. We call these skills the [\*Competencies for Life\*](#).

### 1. Problem solving

### 3. Collaboration

### 5. Core Literacies

### 2. Self-Reliance

### 4. Communication

### 6. Core Workplace skills

We tested these 24 skills across 15 different occupational skills frameworks from accounting to nursing to engineering and found that two-thirds of these enabling skills were common across all occupations. However, on average, each skill had seven synonyms for it. This suggests that the problem is not a lack of alignment on the most important skills, but a lack of alignment on the precise definition and label.

From a community perspective, the *Competencies for Life* communicates the skills in demand. With the skills clearly outlined, people can focus on developing these skills. It enables diverse skills developers from across the certified, non-certified, and informal skills system to clearly articulate the skills their programs develop. The implications of a common currency on certified, non-certified, and informal skills development partners cannot be overstated. The contribution by the thousands of community organizations will be integrated and recognized as a critical dimension of the skills market. Moreover, it recognizes the critical contribution of certified skills development programs, such as liberal arts, in developing highly-valued enabling skills.



## Problem Solving

Problem solving allows you to analyze and connect the dots to solve problems, big or small. Applying problem-solving skills to real-world situations — not just essays and exams — is key to proving your value, as most problems employers face go beyond the obvious. They allow you to consider the past, present, and future and produce new ideas to make decisions. Your ability to consider evidence and apply it to a problem is an enabling skill; you need these problem-solving skills for everything you do.

### Analytical Thinking

Analytical thinking is your ability to deconstruct issues into smaller, more manageable pieces, use evidence and reasoning to identify unique relationships between concepts and weigh the costs and benefits of the alternative actions available.

### Curiosity

This is the ability to be curious and explore a deeper meaning than what is being overtly expressed. It can lead to the expansion of social networks and learning opportunities.

### Creativity

Creativity is using your imagination or original ideas to create something new and appropriate for the problem at hand.

### System Thinking

The ability to evaluate the independence of discrete components of a whole, how these components affect the whole, and vice-versa. This includes your ability to understand complex systems, enabling the ability to anticipate potential outcomes and develop approaches to influencing these outcomes.

#1

The ranking by employers of critical thinking in promoting innovation

#2

The ranking by employers of problem identification in promoting innovation

#3

The ranking by employers of curiosity in promoting innovation



# Self-Reliance

Self-reliance allows you to prevail in the face of difficulties. Self-reliance allows you to push back against obstacles or setbacks confidently, to achieve goals and continue moving forward. It allows you not to be discouraged and never give up while simultaneously doing the best you can and being patient for desired results.

## Adaptable

Being adaptable means having the capacity to achieve or adjust goals when faced with a new context or ongoing uncertainty. New contexts may include culture, socio-economic conditions, organization size, industry type, culture, and team composition.

## Takes Initiative

Initiative is the discipline and ambition it takes to start a task, regardless of difficulty, with limited guidance from others and being self-reliant under pressure.

## Determination

Determination is the capacity to complete a task when faced with obstacles. This includes a capacity to transform failures into continuous learning opportunities.



# Collaboration

There are few things in life that you will do that do not involve people. Collaboration skills provide the ability to work with others (one-on-one or in groups) to achieve an end goal. Research shows that people with strong collaboration skills also have high emotional intelligence, as they can anticipate and manage interpersonal dynamics. This can lead to being able to minimize risks and increase the probability of success.

## Emotional Intelligence

Emotional intelligence is the ability to identify, assess, and modulate one's own feelings and to understand the feelings of others. It requires a mix of self-awareness and empathy toward others.



## **Conflict Management**

This is your ability to mitigate conflict, create common ground, and reach a consensus when different options for forward movement in an organization are considered. This skill encourages people with diverse perspectives to work together to evaluate options and resolve a shared problem.

**42%**

The percentage **more** training in the physical sciences Calgarians have compared to other major Canadian cities

## **Inspire and Lead Others**

This refers to the ability to guide others to complete a task through charisma, rank, intellect, will, or experience. This includes the ability to establish a clear goal and communicate this goal to others.

## **Value Relationships**

This skill is the ability to develop and maintain relationships with people who may share common interests or future goals.

## **Trust**

Confidence in a person's integrity, ability, or character signifies trust.



## **Communication**

**35%**

The percentage **more** training in the engineering Calgarians have compared to other major Canadian cities

Communication allows us to give and receive information from others, both in personal and professional environments. It is how you build and sustain relationships, as well as build bridges between people with diverse viewpoints. It allows you and others to understand information more accurately and quickly, while avoiding misunderstandings and frustration.

## **Active Listening**

Active listening is the ability to give full attention to what other people are saying, taking the time to understand points being made and ask questions when appropriate, without interrupting at improper times.

## **Effective Verbal Communicator**

Being an effective verbal communicator means being able to share information and explanations with a target audience by speaking in a persuasive and influential way. This includes vocabulary, tone, pace, volume, and articulation, with or without technological support.

**37%**

The percentage **less** training in the humanities Calgarians have compared to other major Canadian cities

## **Effective Writer**

An effective writer can share written information and explanations with a target audience in writing in a persuasive, engaging, and influential way. This includes grammar, tone, vocabulary, and style.



## Core Literacies

Core literacies allow you to access and understand available information so you can remain current with trends within your community and workplace. Core literacy skills also mean you stay engaged in professional processes more efficiently while promoting an identity willing to participate.

### Reading Literacy

Reading literacy is your ability to comprehend, apply, and reflect on written texts.

### Good with Numbers

The knowledge of and the ability to work with and use numbers shows being good with numbers. It is the confidence and awareness to know when and how to apply quantitative and spatial understandings at home, school, work, or in the community.

### Financial Literacy

This is having the knowledge of and the ability to make informed decisions on allocating financial resources. It includes personal financial management, budgeting, investing, and other such areas.

### Civic Literacy

Both the knowledge of and the ability to effectively engage in and influence change in political, economic, and cultural social systems show civic literacy.

### Technology Literacy

The knowledge and ability to responsibly, creatively, and effectively use basic technology to enhance productivity and performance demonstrates technology literacy.

*In a fast-changing world, talent is the key to unlocking long-term economic growth.*

Calgary in the New Economy



# Core Workplace Skills

Core workplace skills recognize the value of keeping your knowledge current and staying ahead of changes; you need to grow and learn from experiences continuously. It also means being organized to increase efficiency in completing tasks to save time and money.

## Define Workplace Goals

This is the capacity to define future workplace goals, objectives, and outcomes at an individual and organizational level and to use these goals as motivators for the present action.

**43%**

The [percentage](#) of job postings in Canada requesting spreadsheet skills

## Manage Money and People

This skill refers to the ability to achieve organizational goals by managing financial and human resources. This includes identifying and managing risk.

**31%**

The [percentage](#) of job postings in Canada requesting a university degree

## Time Management

Time management is the ability to manage your own time efficiently and effectively, the time of others, and deliverables for projects. Also, it includes the ability to manage and filter vast levels of information to make timely decisions.

## Continuous Learning

Continuous learning is expanding an individual ability to learn by regularly upgrading skills and knowledge. Effective continuous learning skills are essential for adapting to changing demands at home and work. In the workplace, this involves recognizing and reflecting on experiences as critical learning experiences.



# The Path Forward

Unlocking Calgary's adaptive capacity starts with a shared commitment from citizens, community leaders, educators, skills developers, and employers. They must share the belief that for Calgary and Calgarians to prosper, they must possess an adaptive capacity. Below are two recommendations to develop the skills that matter:

## Prioritize Developing Horizontal Skills

The skills with the highest demand by employers are those that provide the maximum adaptive capacity: enabling and functional skills. Both enabling and functional skills run **horizontally**, between sectors across the economy and provide the best opportunity for agility to people and organizations. To maximize this potential, Calgary must establish mechanisms to incentivize the sustained development and verification of enabling and functional skills.

1. **Refine and scale harmonized enabling skills:** To explicitly prioritize enabling skills, including accelerating their development and verification, employers and skills developers adopt and scale a harmonized enabling skills framework.
2. **Unlock functional skill development:** Unlock system capacity by piloting and scaling harmonized micro-credentials for the highest-demand functional skills in areas related to technology, operations, and marketing.
3. **Skills-based employment practices:** Employers can unlock existing skills capacity in the city by limiting informal proxies (e.g., academic credentials, professional references) and transitioning to skills-based hiring practices.
4. **Work-integrated learning and adaptive capacity:** Design intentional work-integrated learning (WIL) that provides opportunities for young people to learn how to adapt functional skills to diverse sectors or company contexts.

## Support Purpose-Based Skill Development

Adaptive skills are anchored in highly-personalized purpose-based skills development. Purpose-based skills development puts the individual at the centre. However, the vast collection of skills development programming in Calgary is best characterized as the internet before Google. The content individuals are looking for may exist, but it is impossible to locate efficiently.

To overcome the barriers that prevent them from leveraging the full skills development system, Calgary must develop open and available tools to enable exploration and experimentation. These tools would support the development of a personal mission that embeds the capacity to navigate and identify the optimal associated skills development paths.

*Learning is  
the new skill.  
Imagination,  
creation and  
asking new  
questions are  
at its core.*

Sugata Mitra

# The Final Word

The greatest barriers to delivering this skilled city is us. These barriers are embedded in how we have been conditioned to define learning and skills and the narrow group of organizations and people responsible for them. For over 150 years, we have been able to follow a linear path to learning and skill development. However, those days are over. Today, each Calgarian must be accountable for continuous learning and skill development. Moreover, employers must recognize that they are no longer simply consumers of talent but investors and co-creators of talent. Finally, educators and skills developers must collaborate and recognize that in today's world, adaptation and agility must start with our learning system.

*There's  
untapped  
potential...*

Mayor Gondek

To help transform Calgary into a LearningCITY visit  
[LearningCITY.ca](http://LearningCITY.ca)

