



Learning as a Climbing Wall

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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 is at risk of being 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. Moreover, with the half-life of skills becoming shorter and shorter, Calgarians will be required to engage in a continuous cycle of learning, unlearning, and relearning. These two disruptions mean that both Calgary and Alberta are now paradoxically facing both a talent surplus and a talent deficit. To compete in this new world, we need to radically redefine when and how we will learn. But where do we start?

The summit is what drives us, but the climb itself is what matters.

Conrad Anker



Photographer: Phillippe Clairo

The Solution

Imagine a Calgary where citizens view disruption as a chance to reinvent themselves. Imagine a Calgary with an-ever-evolving talent pool. Imagine a city that attracts investment and talent from across the globe because it's known as a city that learns its way forward. To create this city, we need to rethink how we learn.

How we've learned for the past 170 years is rooted in the industrial revolution. For efficiency, time and place became the defining characteristics of learning. People studied a common curriculum from age 5 to 17 within the certified learning system. In their late teens and early twenties, people developed job skills that had economic value. Because these skills were relatively stable, they could then monetize these skills for the next 30 years of their lives. In 1900, life expectancy was under 50, so these skills were what most Canadians required to make a living.

However, the world is very different today. In our current framework, most job skills need constant updating to keep their economic value. Moreover, with the rapid extension of life expectancy, careers now exceed 50 years. These changes demand a radical redefinition of when and how people will learn. We now understand that a one-size-fits-all model no longer works. So, we must shift the industrial paradigm and recognize that time and place can be personalized. For example, challenging the assumption that learning is best anchored to time (age) and place (a classroom) will redefine learning. This redefinition will transition learning from a closed model, in which a narrow group of organizations-controlled learning, to an open model of continuous learning, unlearning, and relearning. In this new model, the learner, not an institution, is at the centre and is empowered to design their custom learning pathway.

If the closed learning model resembles a static ladder, the new open learning model resembles a rapidly expanding climbing wall. It incorporates infinite ways to learn, from traditional classrooms to employment, to volunteering, to an art class or playing sports, listening to a podcast and everything in between. The greatest barrier to delivering an open learning climbing wall isn't government policy or funding; it's the mindset of each of us. As a city, to compete in the new world of talent, we need to transform this barrier into an opportunity.

30,870

the number of learning programs offered annually in Calgary

3,833

the number of programs delivered annually by community and social organizations

4,912

the number of programs delivered annually in the creative arts

8,608

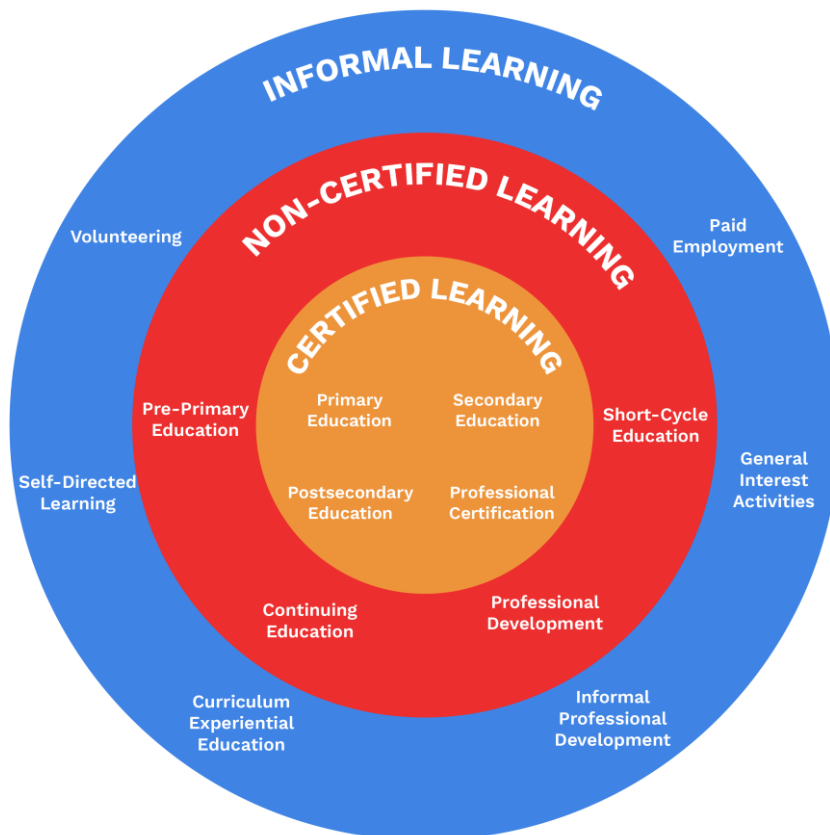
the number of programs delivered annually in sport & recreation

From Ladder to Climbing Wall

The industrial learning ladder was designed in the mid-1800s with a single goal — to deliver mass literacy. Over the next 170 years, this model delivered on this mandate. However, the world that this model supported is no longer the world we live in today. It's time for us to update our vision.

The learning ladder is restricted to institutions the government defines as qualified to deliver **certified learning**. This learning includes structured learning experiences that lead to formal certification or credentials by a recognized body, such as a government or professional association. It's a closed model, limited to a small group of institutions that define what people should learn, how it should be delivered, and, most importantly, who is permitted to teach and assess. For 150 years, this closed learning system expanded to include charter schools, universities and colleges, and a range of professional bodies.

However, outside of this closed system, there was a rapid expansion of non-certified and informal learning. How Canadians learn and develop new skills has never been limited to a classroom. In fact, people continuously learn at work, when volunteering, attending a religious service, participating in an art class, or playing sports. **Non-certified learning** is organized learning but does not result in a certification or credential from a recognized body. These programs may be delivered by organizations ranging from universities to libraries to non-profit or for-profit organizations and can often resemble certified learning. In contrast, **informal learning** is self-directed, incorporating a diverse array of lived experiences and unstructured resources from employment to reading a book or listening to a podcast. The pathways to learning are infinite, and it's estimated that Canadians spend 15 hours per week on average developing skills informally.



To better understand the capacity of the climbing wall, *Calgary Economic Development* recently completed a comprehensive [audit](#) of Calgary's certified and non-certified learning system. The city's certified and non-certified system is massive, incorporating **3,063** organizations, delivering **30,870** programs, and over **3.5 million** unique learning experiences annually.

Hitting the Wall

Though Calgary possesses a vast learning system, there remain challenges to transforming these isolated learning experiences into a seamless and open climbing wall. The open model aims to enable Calgarians to establish personal and professional goals and a unique learning path to achieve these goals. Today, there are five major barriers that Calgary must overcome:

Barrier 1: Convenience

The historical strength of the industrial learning ladder, simplicity, is now its greatest barrier to transformation. In the past, climbing a generic ladder in the K-12 education system didn't demand any big decisions. Now, 80% of Calgarians also complete a postsecondary credential, which can be an important component of a person's skill development. However, unlike kindergarten to grade 12, postsecondary is a big decision. A university degree in Alberta costs \$70,000, leaving the average student \$28,000 in debt. Moreover, a four-year university degree requires an estimated 10,000-hour commitment. However, by being embedded as an extension of the generic ladder, many people start postsecondary because it's the logical next rung on the ladder. Notably, almost a [third of people](#) who start postsecondary in Canada never complete it. Data also suggests that almost 50% of people regret their choice of study. So yes, climbing the ladder is convenient, but that convenience can no longer be the primary outcome of precious time where every person could be developing agency as a learner.

3,063

the [number](#) of learning organizations in Calgary

75%

of learning organizations are [headquartered](#) in Calgary

7%

of learning [organizations](#) are less than ten years old



Barrier 2: System Culture

The open learning climbing wall demands processes and systems that promote collaboration, enabling a learner to climb and explore seamlessly. However, the culture of many certified and non-certified organizations is not rooted in a history of collaboration. Two factors drive this culture. First, regardless of where an institution sits in the system, whether it's a college, a non-profit community organization, or a private school, it competes for the same learner. Therefore, promoting seamless movement between learning experiences creates a retention risk, especially for underperforming institutions. As a result, barriers are often constructed to impede mobility, not promote it. Second, facilitating institutional collaboration can be operationally difficult, especially compared to the traditional closed model grounded in time spent in a specific course.

Barrier 3: Employer Culture

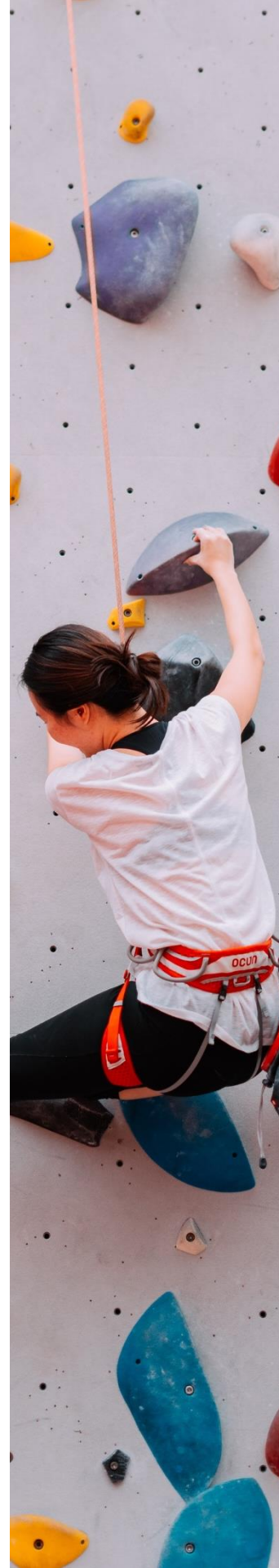
Today, beyond a narrow list of recognized professional and technical certifications, most skill areas or occupations don't offer a path to formal certification. To overcome this gap, many employers adopt a series of informal proxies, including academic credentials, personal references, and previous work experience. For example, an academic credential is a proxy because employers project that completing a degree, diploma, or course in a specific area is evidence of a skill in that area. Yet, research shows that these informal proxies don't correlate to job performance. In particular, the inclusion of academic credentials as a skills proxy incentivizes people to stay on the ladder and not explore the diversity of the climbing wall.

Barrier 4: Navigation

The vast certified, non-certified, and informal learning system mirrors the internet before Google. With 31,000 certified and non-certified programs in Calgary alone, and infinite opportunities globally, an ideal learning opportunity may exist, but today it's almost impossible to find it efficiently. As a result, people are drawn back to the convenience of the closed learning ladder.

Barrier 5: Risk and Decision-Making

Barriers 1 to 4 create Barrier 5 — a structural advantage favouring the traditional certified learning system. Research demonstrates that when faced with making a significant or high-risk purchasing decision (like a choice of school or program), brand familiarity becomes an important factor. Thus, the brand familiarity of traditional institutions, including colleges and universities, provides a critical structural advantage to these institutions while concurrently putting new entrants at an often insurmountable disadvantage. As evidence, only 7% of current certified and non-certified skills organizations have existed for under ten years compared to 73% that have existed for over 20.





Photographer: Neil Zeller

The Path Forward

Other sectors, including healthcare, financial services, and technology, have faced similar disruption and the associated barriers to transformation. In response, a model of open innovation emerged to empower collaboration and co-creation by inverting the business model from being centred around an organization to focusing on the user. For example, Lego shifted to an open innovation design model and immediately scaled from seven Lego engineers to over 20,000 Lego consumers engaged in design co-creation. Similarly, Apple and Google opened their platforms to tens of thousands of individual developers, creating millions of new apps and redefining the industry’s business model. This open model provides an important framework for transforming Calgary’s learning system. Based on this, below are four high-priority recommendations to start this transformation:

Recommendation 1: Establish the Calgary Talent Lab

We recommend that Calgary establish an independent “Talent Lab” designed to promote system-level harmonization, collaboration and innovation. The mandate of the Lab is framed by seven dimensions:

1. Consult the ecosystem to identify priority system-level initiatives.
2. Establish mechanisms to maximize system-level collaboration.
3. Secure financial and human capital required to activate initiatives.
4. Conduct small-scale experiments designed to stimulate innovation.
5. Manage the implementation of system-level programs.
6. Track progress to delivering on the defined talent goals.
7. Disseminate the learnings from to the learning system.

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The best climber in the world is the one having the most fun.

Alex Lowe

8%

of all learning programs in Calgary lead to a certification

Recommendation 2: Stimulate Competition and Innovation

The current system must open to competition and innovation to deliver the open learning climbing wall. To do so, we recommend two strategies.

Adopt skills-based employment practices

Employers must transition from practices rooted in informal skills proxies to ones rooted in skills-based evidence. Skills-based employment practices, such as formal skills testing, will open the climbing wall in two ways. First, it will incentivize learners to explore the diverse learning pathways on the climbing wall, including both non-certified and informal learning. This will then unlock the potential of certified, non-certified, and informal capacity by stimulating innovation as the focus shifts from certification to evidence of skills.

Integrate decoupled certification

The Government of Alberta policies suppress the climbing wall by facilitating a monopoly on credentials and certifications. This monopoly must be opened to unlock the full potential of Calgary's learning climbing wall, enabling certified, non-certified, and informal learning paths to skill certification.

Over the past four decades, policymakers responsible for sectors ranging from telecommunications and financial services have faced similar challenges. Both telecommunications and financial services adopted the principle of "decoupling" to stimulate competition and innovation. This model "decouples" or detaches components of the network to promote fair competition between all service providers. For example, in telecommunications, phone numbers were "decoupled" from the service provider to allow customers to transfer their phone numbers to a competitor, thus removing a significant barrier to open competition.

Following the lead of these sectors, the process of learning and skills certification should be decoupled. In a decoupled learning system, the assessment of skills and the development of skills are not directly related. Therefore, the body awarding the certification or credential (e.g., government, professional association) is mandated to provide skills assessment. This opens the learning marketplace, as any organization can now compete to prepare a candidate for the decoupled certification. The best example of decoupled learning is a driver's licence. The government focuses exclusivity on assessing a candidate's ability. How or where a candidate learned to drive is independent of the assessment. This decoupling contributed to a rapid expansion of the driver education marketplace.

In 2022, a consortium of Calgary partners launched a pilot branded *Trusted Skills*. Trusted Skills introduced four decoupled marketing certifications independent of any unique learning pathway. This pilot is ongoing.

7,719

the number of construction learning experiences delivered in Calgary annually

84%

of construction learning experiences are certified

6,070

the number of computer software and media learning experiences delivered in Calgary annually

33%

of computer software and media learning experiences are certified

Recommendation 3: Empower Learners

For open innovation to be unleashed in the learning system, it must be inverted by putting Calgarians at the centre. This confronts the most significant challenge — reinventing the role of the learner. Learners will no longer passively climb a ladder; instead, they must ignite their curiosity to become actively engaged in exploration and continuous learning.

Such a shift would see Calgarians challenged with developing comprehensive personal “missions” (i.e., learning plans that lead to an intended career outcome), which they will test and refine over time. This mission will empower learners and allow them to measure how their custom climbing wall serves them as the world changes around them. A mission enables learners to identify and prioritize the skills required for success. A key component is developing a learner’s “mission map.”

The mission map can be organized around five components:

1. Learning experiences
2. Employment experiences
3. Community/volunteer experiences
4. Contextual experiences
5. Relationships

Recommendation 4: Harmonize Career and Skills Navigation

To empower learners and support regional skills priorities, Calgary must become a leader in adopting purpose-based learning at a community level. This approach would harmonize career and skills navigation to allow Calgarians to explore career and skills pathways. Envision this as a digital tool that Calgarians can leverage at any life stage, independent of education or personal goals. This tool may incorporate some of the following features:

- Be designed around the person to enable personalized and self-directed learning.
- Allow the integration of regional economic priorities and emerging skills demands.
- Be a platform for decoupled skills certification.

1/3

of postsecondary students in Canada do not complete their program.

70%

the proportion of all jobs in Alberta estimated to be directly in oil & gas by young people

6.1%

the proportion of all jobs in Alberta in oil & gas

68%

the proportion of respondents aged 18–24 in Calgary who state they are likely to leave Alberta within five years

The Final Word

Calgary has faced numerous challenges in its history. The skill challenge we face today is no different. There's only one path forward: to confront this challenge together. To do so, we must re-
envision learning by recognizing that traditional education systems, though essential, are only a small component of our city's rich learning system — our climbing wall.

The greatest challenge to delivering an open learning climbing wall is not external, but the embedded rules, routines, practices, and cultures that influence our individual mindsets, behaviours, and organizations. These are all factors in our control. To quote one of the pioneers in computer science, Allan Kay, "*The best way to predict the future is to invent it.*" So, let's unlock our open learning climbing wall together.

Curiosity is the engine of achievement.

Ken Robinson

To help transform Calgary into a *LearningCITY* visit LearningCITY.ca

