How to Design a Microcredential That Meets Demand

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Who Am I?

- Teaching at the university | college level since 1973
- Psychologist by training but have taught in both statistics programs and in business schools as well as K-12
- Now working on strategic foresight as a teacher at the University of Toronto (OISE) and University of Alberta and Athabasca University (MBA) + Chief Innovation Officer, Contact North | Contact Nord
- Created the world's first fully online MBA in 1993-4 and have been building and working with technology enabled learning experiences ever since
- Worked for 15 years at the Open University (UK) and for 14 years at Athabasca University
- Consultant, writer and imagineer and general nuisance!

This Presentation

What are microcredentials supposed to be?

What in fact are they?

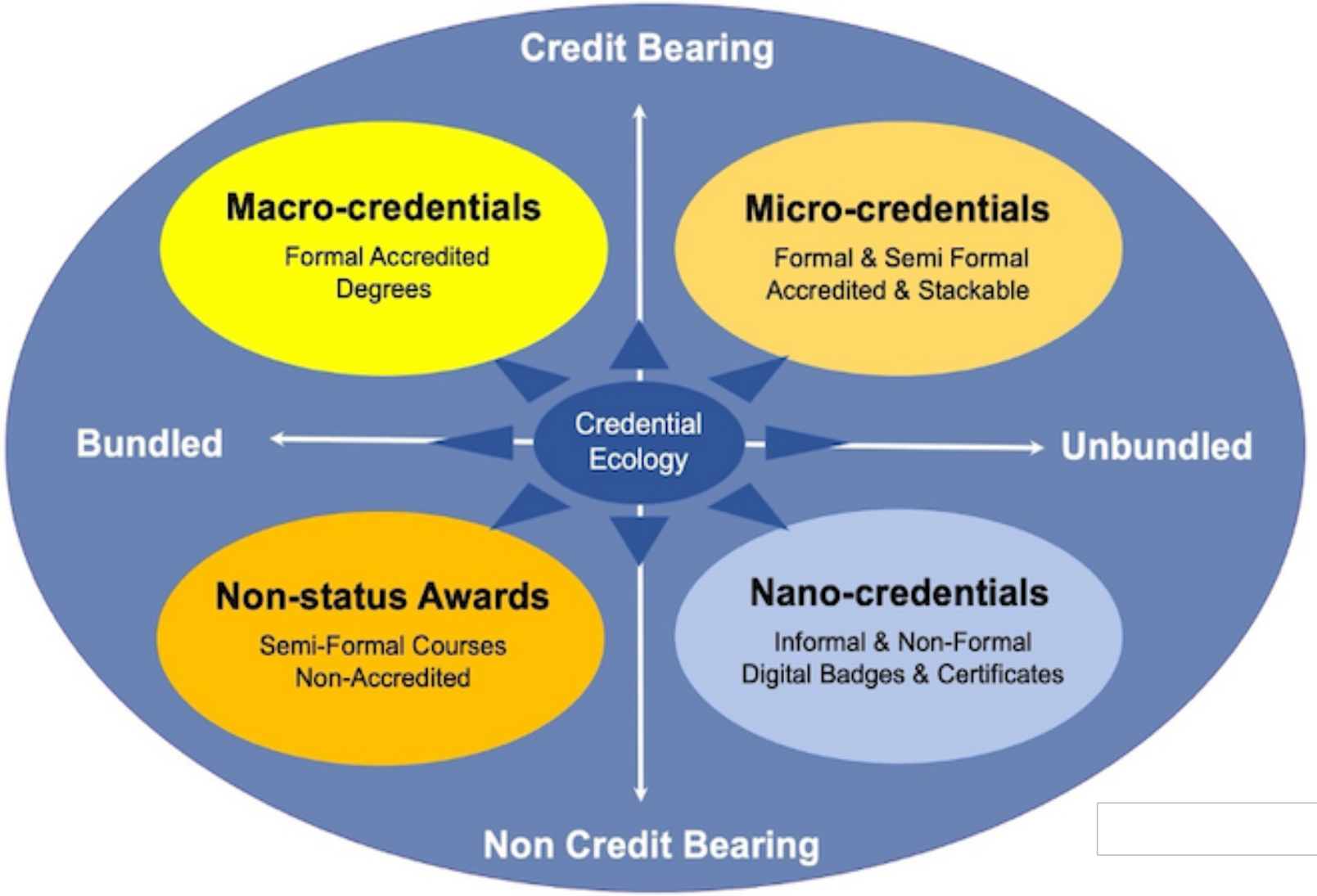
What is the challenge for colleges, universities, employers and students of the market “as is”? Five issues.

What needs to change?

What could a new approach to micro-credentials look like?

What impact (if any) will micro-credentials have on long-form credentials.

It is a Complicated Space



CICan Framework Suggests that…….

1. Microcredentials can **be a complement to traditional credentials (certificate, diploma, degree or post-graduate certificate) or stand alone**.
2. Microcredentials are subject to a **robust and rigorous quality assurance process.**
3. Microcredentials should **represent competencies identified by employers/industry sectors to meet employer needs**.
4. Microcredentials may provide **clear and seamless pathways across different credentials (both non-credit and credit) and may be stackable.**
5. Microcredentials are based **on assessed proficiency of a competency, not on time spent learning.**
6. Microcredentials are **secure, trackable, portable and competency is documented in students' academic records.**
7. Microcredentials are to **follow institutional approval processes.**

A review of a sample of 1,000 microcredentials from across Canada

Less than 10% available on demand.

Many were semester long in length, not short – months rather than days or hours.

Few showed any connection to employers' competency frameworks or models in any direct / indirect way.

Not clear how competencies would be assessed – indeed, assessment process descriptions often not available.

Some are “unbundled” 3 credit courses that are then transferable back into credit (modular + stackable).

MOOC Providers / Employers

Provider	Number of Microcredentials (Dec 2021)
Coursera	910
edX	480
FutureLearn	180
Employers Direct (IT companies)	1,817+
Linked-In	3,000+

5 Big Issues

1. **Assessment is not competency-based**
   - Often assessment mirrors how we assess students in tradition long-form programs.
   - Mastery based assessment based on demonstrated evidence (video, project work, audio, etc.) rare.
   - Multiple choice and other similar assessment forms used for demonstrable skills.
2. **Not on available demand**
   - Offered on the college timetable not the employer or learner timetable.
   - Governed by contracts of employment rather than outcome-based contracts
3. **Not linked to national or international NVQ standards**
   - Raising issues of portability, value and longevity

- and -

4. **Disconnected from other qualifications and industry requirements**
   - Pathways to credentials increasingly confusing, especially in relation to IT
   - Often not specific enough for employers – e.g., Amazon Web Services seeking 900+ people with specific skills in Calgary NOW or ship / boat building skills in Vancouver – which is why Amazon, Google, IBM etc. offer their own.
5. **Quality assurance problematic, especially when stackable and transferable into diplomas and degrees.**
   - Emerging concerns about the QA process for stackable and transferable degrees.


Comments, Questions, Observations?
Use “Chat” to share and we’ll explore…

Why the Market Is Growing

Global Market Analysis from HOLON IQ

Holon IQ

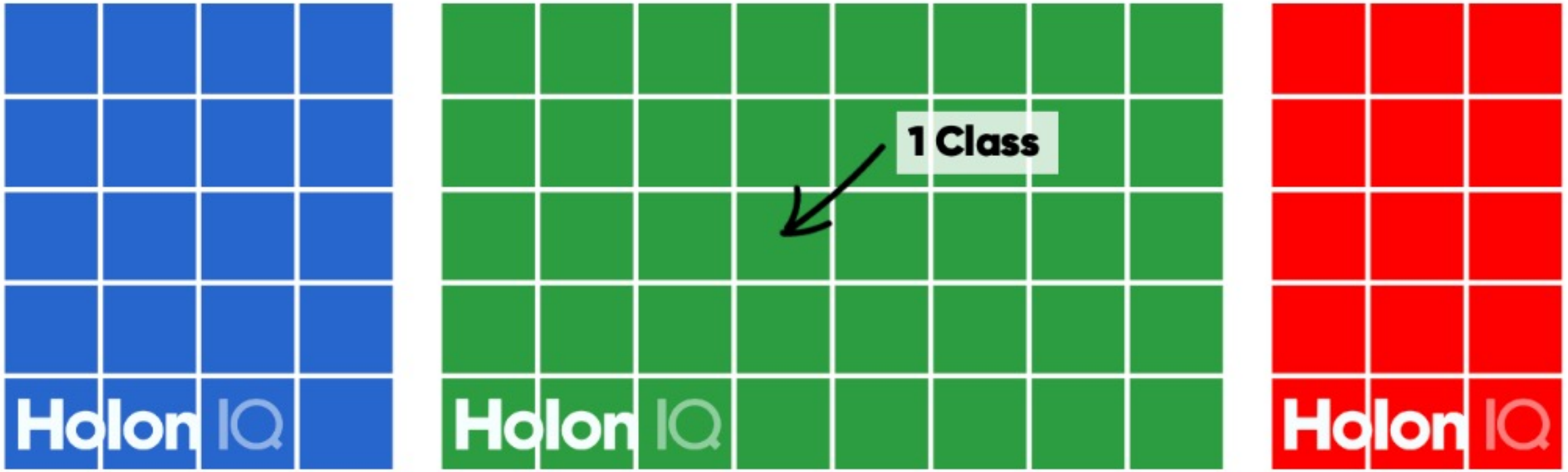
Degrees could be considered as 'bundles' of carefully selected, sequenced and integrated curriculum.

Degrees are defined and built from the bottom up. Each credit hour, class and course carefully defined and sequenced.

Associates Degree
60 – 65 credit hours or 20 classes.

Bachelors Degree. Approx 4000-5000 hours
120 – 130 credit hours or 40 classes. (125 eight-hour days per year)

Masters Degree
30 to 60 credit hours



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$9.9B Micro and Alternative Credential Expenditure

2019 Global Micro and Alternative Credential Market Estimate in USD

Illustrative examples only

Bootcamps (Offline + Online)

2U, 42, Fullstack, GA, galvanize, Iron Hack, Lambda, Thinkful

B2B and HE growing very fast

$0.9B

D2C Bootcamps, B2B Bootcamps and now University Partnership Bootcamps

Online Non-Degree 'Certificates' and Post Secondary Micro-Credentials.

coursera, eCornell, edX, Emeritus, Future Learn, Georgia Tech, getsmarter, upGrad

University & Non-University designed & delivered 'certificates' & micro-credentials

$2.3B

Excluding Offline Executive and Continuing Education

Professional Certifications

ati, aws, barbri, Becker, CFA, KAPLAN, UWorld

Accounts, Cyber, Engineers, Finance, Lawyers, Nurses, Physicians, Software Developers, Tech/Project Management.

$2.9B

Online Courses & Badges

coursera, degreed, edX, LinkedIn, Pluralsight, simplilearn, SkillShare, treehouse, Udacity, Udemy

MOOCs, Marketplaces, Coding and Creator Courses, Skills Assessments and Test Prep for Professional Certifications

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$3.8B+

Source: HolonIQ Smart Estimates, February 2021

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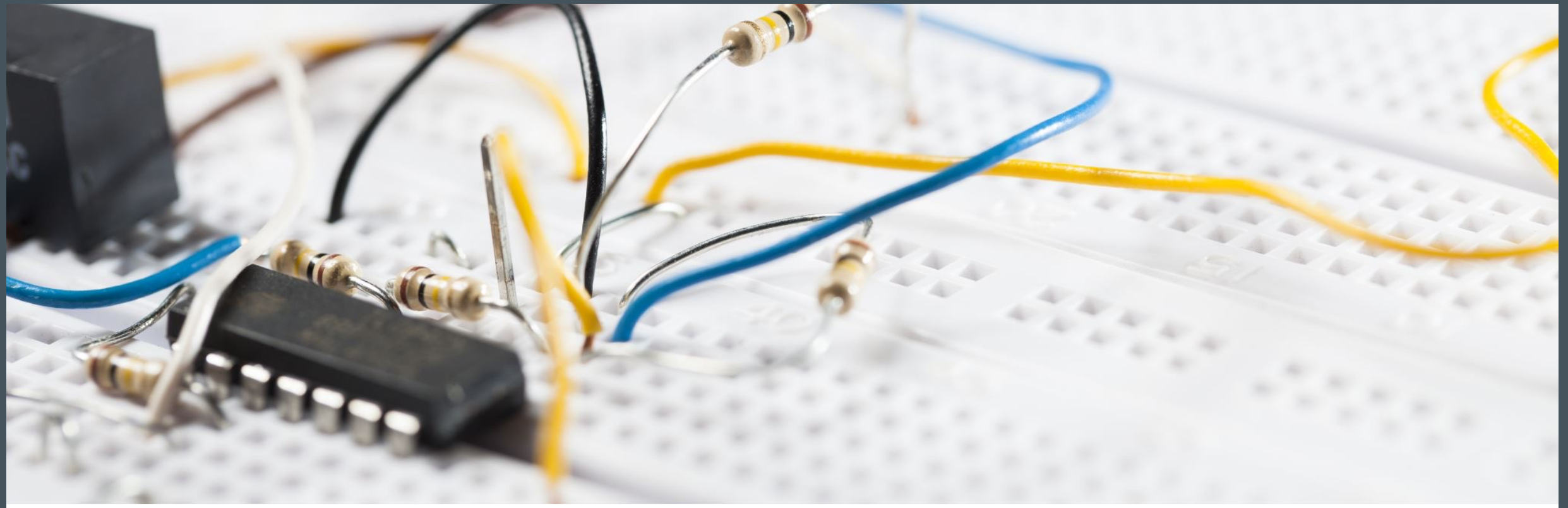
Segmenting the Post Secondary Credential Spectrum

Defining the Global Micro and Alternative Credential Spectrum, beyond government led qualification frameworks, is not straight forward. Different stakeholders bring very different perspectives, and this segmentation is by no means exhaustive.

1-10+ hours **Short Courses/Badges**	500-1000 hours **Bootcamps**	200-1000 hours **Professional Certifications & Licenses**	100-1000 hours **Non-University Issued Non-Degree 'Certificates'**	100-1000 hours **University Issued Non-Degree 'Certificates'**	1500-5000 hours **Degree Programs/ 'Accredited Programs'**
• On Demand, Online, Short Courses. • Mostly asynchronous video and resources. • Generally, no formal assessment. • 'Peer to Peer' heavy.	• 3–6 month full-time immersive programs. • Coding, Cyber, Digital Marketing, PM, UX... • Formerly offline, moving online due to COVID. Might go back	• Professional certifications and licenses. • Generally issued by industry bodies. • Dominated by Question Banks, Study Notes and Test Prep.	• 'Self-credentialled', employer or Industry backed, non-accredited programs. • Google: 'equivalent to a four-year degree'. • Industry backed MOOC Certificates	• University Branded Certificates. Delivered internally or through partners/platforms. • Increasingly credit bearing or some form of recognition/ advancement quality.	• National/Regional Qualification Framework Regulated Programs. • Government funding tied to qualification frameworks.
Examples • Degreed • LinkedIn (Lynda.com) • OpenClassrooms • Pluralsight • Skillshare • Udemy	**Examples** • 42 • General Assembly • Lambda School • Le Wagon • Thinkful • Trilogy	**Examples** • AWS, Cisco, SSCP... • Bar (Law), CFA (Fin)... • CA/CPA/CIA/CERA... • NCLEX... • PE/FE, PMP, PgMP... • USMLE, ABFM...	**Examples** • Google Certificates, Udacity Nano-Degree • MOOCs w Industry Partners eg EdX MicroMasters, Coursera 'Specializations'	**Examples** • eCornell • European Micro-credential Framework • University Learning Store • WGU Academy	**Examples** • TVET Certificates • Associate/Bachelor • Masters/Doctorate • 'Sub Bachelor' and 'PG Diploma' in most parts of the world.

Source: HolonIQ, February 2021



Designing a Micro-Credential Eco-System

7 Steps For Skills Development

Focus on Skills in Demand

- 75% of Canadian employers cannot find the employees they need with the skills they require – reskilling, upskilling and skills development are mission critical. *(Source: Manpower 2021 Talent Shortage Survey.)*
- Key skill domains in demand:
  - call centre representatives
  - senior software developers
  - accountants
  - bookkeepers
  - digital marketers
  - social media managers
  - data analysts
  - project managers
  - administrative assistants
  - IT support workers

Step 1: Find an Industry Partner or Significant Employer Organization

Canada does not have NVQ's for all occupations, but there are some vocational qualification standards / tasks.

There are National Occupational Analysis (NOA) and Red Seal Occupational Standards (RSOS)

Several occupations have their own competency-frameworks – e.g., Project Management Institute or Institute of Inspection Cleaning & Restoration (IICRC) international standards.

Partner with an employer organization or major employer to define **behavioural and performance competencies** and **demonstrable outcomes.**

Step 2: Use Backward Design focused on Assessable Skills and Mastery

- Start with assessable competencies, skills and demonstrable behaviours: what must the learner be able to show and tell in terms of skill.
- Develop the competency statements and rubrics for assessment.
- Think assessment on demand by competence **not courses or time**.
- Focus on demonstrating mastery through legally defensible assessment – video, audio, text or combinations.

Step 3: For each competency, identify what micro-learning can accompany that competency

- Think micro, on demand learning, not courses or time.
- Think OER, video teaching, mentor support, AI enabled tutoring..
- Then think about bundling groups of competencies into bootcamp or short course activities.
- Use the Khan Academy model – short video learning supported by asynchronous activities and AI enabled chatbots.

Step 4: Quality Assure

- Use a pilot to test and assess
- Ask employers to verify competency assessments from the pilot – they are looking just at the assessment, not at the “content” or process for learning.
- Train assessors to assess competencies and skills.

Step 5: Develop Guidance and Pathway Supports

In the US there are over 1 million credentialing pathways for secondary and post-secondary learners.

In Canada there are app. 10,000 microcredentials – 3,450 in Ontario alone.

Individuals seeking to upgrade their skills, reskill for a new career or explore new opportunities for learning need independent guidance and support for pathways for success.

While AI can help, navigation of the PSE landscape is a complex business requiring a personal touch.

Step 6: Offer Assessment on Demand

Assessment should be independent of “courses” or learning activities.

Assessment should also be available on demand – when the individual feels that they have mastered the skills and competencies required.

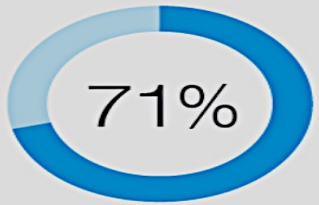
Assessment should be submitted in such a way that they relate to a very specific competence so that mastery can be examined by an assessor and verified.

Step 7: Support Gap Based Learning

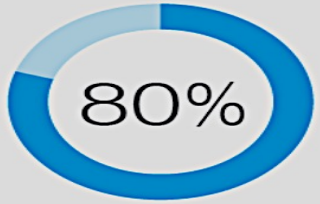
- To complete a credential – e.g. certification for a specific career related skill-set – the individual needs to know what skills they have mastered and what skills they need to work on.
- Rather than take a course which covers all the skills they already have, they need learning focused on the gaps between what they can do and what they need to do.
- Providers then support learning through bootcamps, short courses and online learning and encourage assessment activities related to these skill gaps.

A 6-week pilot project to test online, competency-based education and training that puts the student first.

43 participants

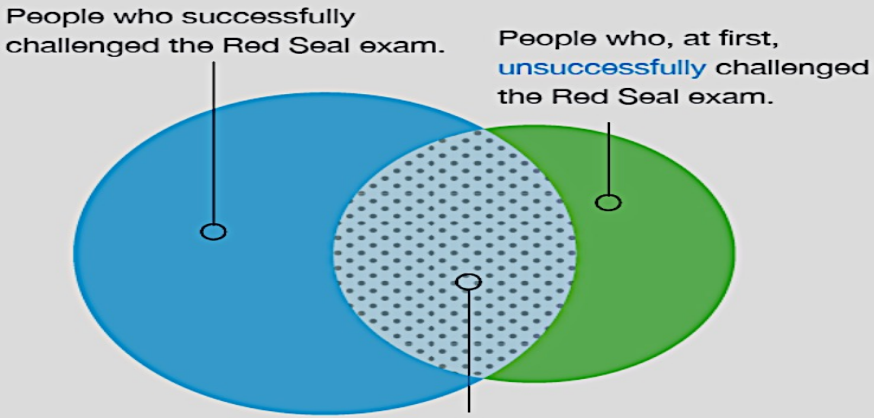


71% of participants passed their practical assessments.



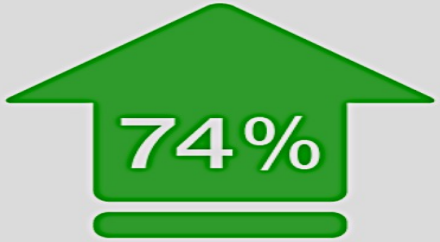
80% of students who spent the most time in the program passed their written exam.

Those who were **successful** on the written exam spent on average **2x** as much time using the **training modules** than those who were unsuccessful.



53%

After completing the pilot, over half the group who were initially unsuccessful passed the exam.



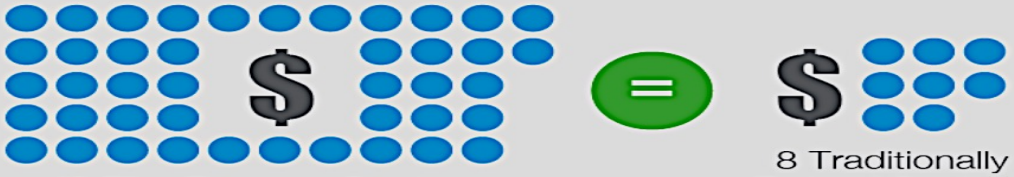
Increased success rate in participants who had previously failed the written exam.

Once built, a fully realized **online professional cook gap training program** could cost about **50% less than** delivering one level of in-person apprenticeship training.

$100 Per Student

Scaling and expanding the online pilot program can be done cost-effectively for about $100 per student for phase 2.

Program Costs



43 Pilot Program Students

8 Traditionally Trained Students

Comments and Questions?

Use “chat” and we’ll respond

What Canada Needs..

5 Action Steps

Five Key Actions

1. National Vocational Qualifications Frameworks for all industry sectors and jobs – essential for transferable skills.
2. A national register of microcredentials linked to the NVQ's and "signed off" by industry partners.
3. A strengthened system of support for life-long learning through tax credits – already there but needs to be stronger.
4. Real and deep collaboration between colleges, universities and industry to better align microcredentials with need.
5. Strong provincial career and pathway advising services that are not about recruiting to a particular institution, but about providing excellent advice and support – Contact North | Contact Nord, Contact Nord BC provide excellent models for how this can be done.

Will Micro-Credentials Disrupt Long-Form Credentials?

- Diplomas and degrees evolve slowly over time.
- MOOCs already accepted as part of some graduate degrees at conventional universities and many universities are offering diplomas and degrees on MOOC platforms.
- Micro-credentials are being used by some institutions as “teasers” for long-form programs: modular, stackable and transferable.
- Colleges are more likely to see some disruption of their business models over the medium term as more students seek flexible, modular forms of learning.

Government of Canada

- Just issued several calls for significant funds (app. $250 million - $500 million) for skills-based developments:
  - 10,000 people to engage in skills assessment and gap-based learning based on the model outlined here, including enhancement to literacy and numeracy.
  - Strong focus on
    - Clean Technology and Skills
    - Agriculture and Agri Food
    - Construction
    - Natural Resources and Environment
    - Transport
    - ICT and Cybersecurity
    - Manufacturing
    - Tourism and Hospitality
    - Health and Care


Thank You!
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