

Translating, Teaching, and Assessing Transferable Skills at Mohawk College

Dr. Pamela Ingleton, Director, CSSIC

Access Reboot: New Directions for Higher Education

November 3, 2023

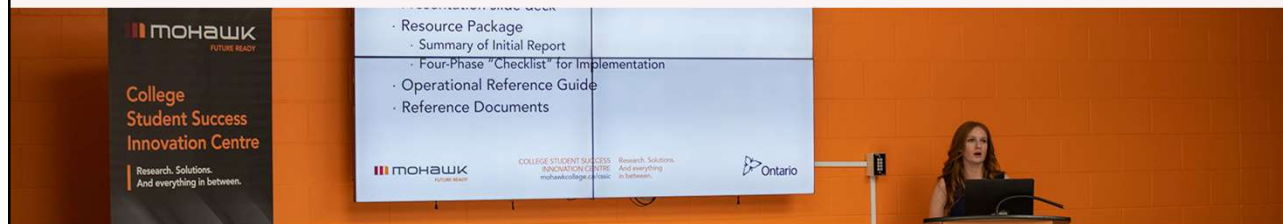
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Innovation Centre

MOHAWK
COLLEGE

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About the **College Student Success Innovation Centre (CSSIC)**

Canada's first research centre on a college campus **uniquely focused on community college student success.**




Since 2015, CSSIC has led or co-led **10 externally funded research projects** with **over 20 partners** (PSE and industry).

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Research on Translating, Teaching, and Assessing Skills



Initiative

VALUE Rubrics

VALUE rubrics are open educational resources (OER) that enable educators to assess students' original work. AAC&U offers a proven methodology for applying the VALUE rubrics to evaluate student performance reliably and verifiably across 16 broad, cross-cutting learning outcomes.



Learning Outcomes Assessment Consortium (HEQCO)
 "Assessing Basic Cognitive Skill Development and Transferable Life Skills in College Students from Admission to Graduation" (2017-2019)

College and Community Social Innovation Fund (NSERC)
 "Translating Job Performance Expectations for College Contexts: A Demand-Led Solutions to the Skills Articulation Gap" (2020-2024)

Innovation Funding (FSC)
 "Building Pathways to Employment for Disadvantaged Groups" (2020-2022)

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The Future Ready Skills Translator







Social Sciences and Humanities
Research Council of Canada



Conseil de recherches en
sciences humaines du Canada



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FRST Skills Performance Expectations Survey

16 VALUE rubrics

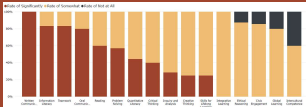
139 outcomes

67 survey items

Custom skills profiles



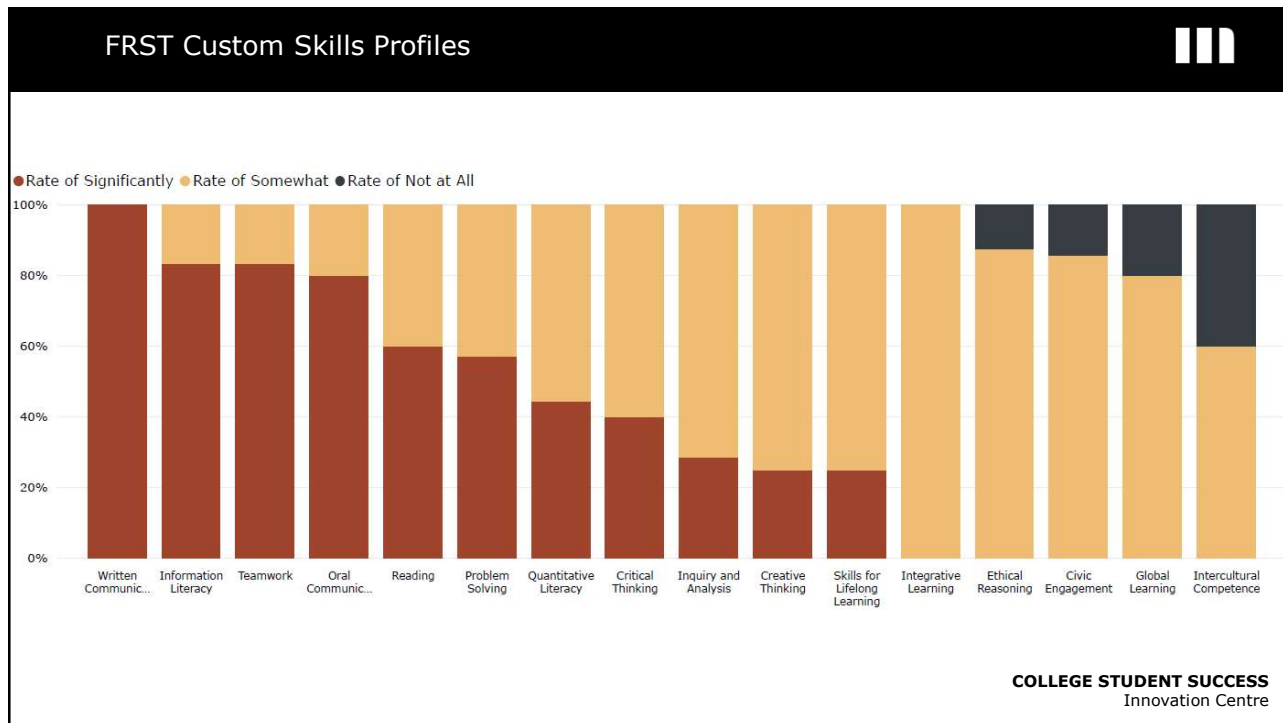
Adapts and applies, independently, skills, abilities, theories, or methodologies gained in one situation to solve difficult problems or explore complex issues in original ways.



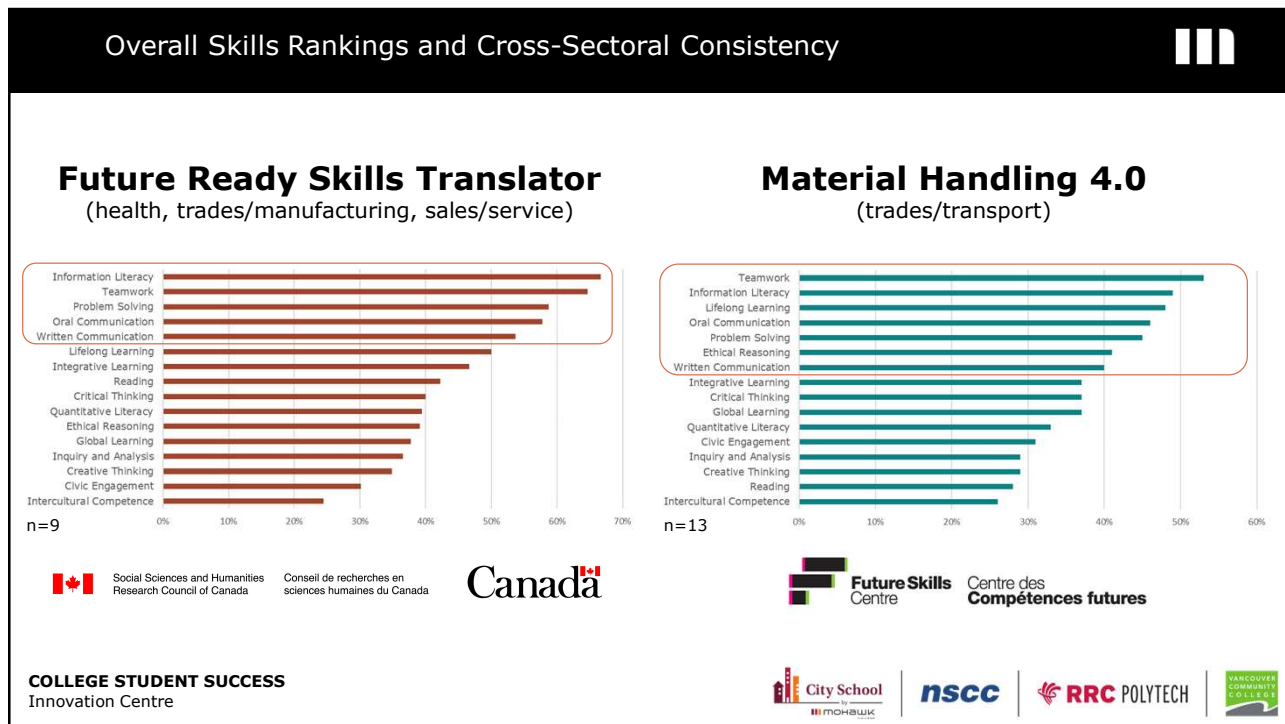
Apply previous learning to new situations.

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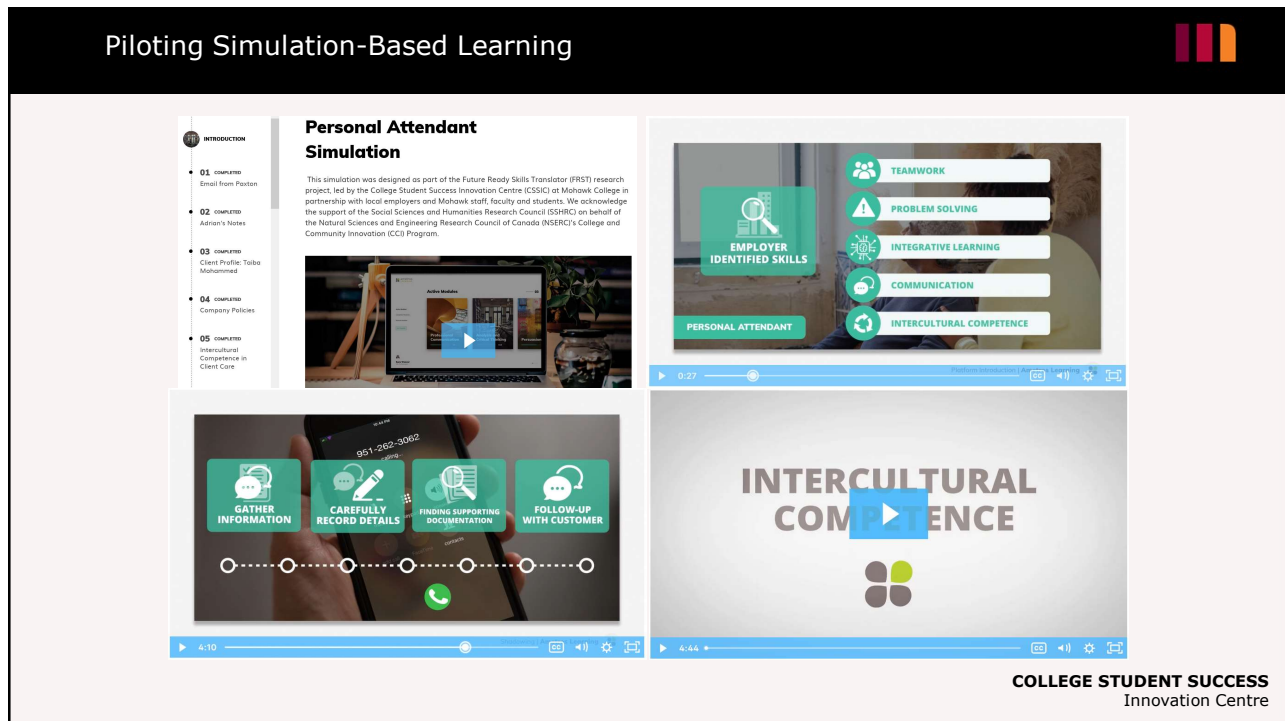
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Piloting Simulation-Based Learning

Helaine Electric Company Policies & Procedures

At Helaine Electric Wholesale, we believe it's our customers as family while getting to know each other... why we've been a family-run business and a trusted supply and distribution industry for the last 20 years... services and solutions for residential, commercial...

Client Work Sheet

Client Information:
 Name: Vitar Wholesale
 Phone: (800) 211-2288
 Address: 1324 Main Street
 City: St. Catharines, ON L2R 1K9
 Fax: (905) 709-1100
 Website: www.vitar.com

Client Address:
 Location: St. Catharines, ON
 Address: 1324 Main Street
 City: St. Catharines, ON L2R 1K9

Client Personnel:
 Name: [Redacted]
 Title: [Redacted]
 Email: [Redacted]
 Phone: [Redacted]

Technical Drawings:
 ISO View, Top View, Left View, Right View

BRENT'S INDUSTRIAL MOTORS

Motor Specifications:
 CAT. NO: 35P243Q029E7
 HP: 1
 VOLTS: 240
 AMPS: 5
 R.P.M.: 1150
 FRAME: 145LM 60 60
 SER. F: 1.15 1000 107 63
 MEM. NEW EFF: 82.5 107 63
 PARTS: 1000 1000
 CC: 010A 1000 1000
 BEARING: 6206 6206
 ENCL: 1000 1000

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Piloting Simulation-Based Learning

What are the inspection requirements for field welds?

QUIZ

3/16"

Subject: Photos from job site

To: Callum Scott
Welder

From: Pamela Ingleton

EMAIL

Hey Callum,

Looked over those photos you sent and noticed...there is an awful lot already installed at that car wash! I'm worried now the pieces we prepped won't fit as built. Do you have precise dimensions on the install space?

Thanks!

I'm still feeling a bit uncertain.

Is there anything else I should know before I make a decision about which technique to choose?

DIALOGIC

Just that tacking allows you to position it well before welding, leaving room to make adjustments if necessary.

I'm so glad we had this conversation. Thanks again for your help!

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Piloting Simulation-Based Learning

Problem Solving: Define Problem

EXEMPLARY DEMONSTRATION OF SKILL
Based on the blueprint, image of the site, and measurements from Callum, you were able to deduce that there will be problems fitting equipment where you need it to complete the installation. Great work!

Incomplete demonstration of skill
Problem Solving: Defining a Problem
The first step towards solving a problem is understanding it in detail. In this interaction, you had an opportunity to ask Callum for the car wash site measurements. This information will help you define the problem that he pointed out to you.

Problem Solving: Evaluate Potential Solutions

SUFFICIENT DEMONSTRATION OF SKILL
Good work! The first option is the least accurate because it is the most difficult to coordinate by holding a plate and welding at the same time. This method has the most room for error in the final fitment if performed with inexperience. However, it is the most cost-effective because an employee can perform the work without any type of assistance and minimal set-up. It is also safe because the beam is laying flat on a support, which puts it closer to ground level.

Level set:

The site measurements are as follows:

- Overall measurement of building is 82'x16'x 25'
- Ground level width is 16'
- Top of building is 15' 2"
- There are metal pieces for car wash equipment @ 12' high which will interfere with the beam install. If metal plates are installed before welding, we will only have 2" of extra space to wiggle the beams into place, which will be a problem.

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Collecting and Analyzing Performance Data and Stakeholder Feedback

Skill Demonstration (all simulations; n=200)

Skill	Exemplary	Sufficient	Incomplete
Communication (n=149)	75%	25%	0%
Intercultural Competence (n=149)	65%	35%	0%
Creative Thinking (n=51)	60%	40%	0%
Teamwork (n=149)	60%	40%	0%
Problem Solving (n=200)	60%	40%	0%
Quantitative Literacy (n=51)	30%	70%	0%
Information Literacy (n=39)	20%	80%	0%

Post-Simulation Skill Recall (coded responses)

Skill	Percentage
Communication	45%
Problem Solving	25%
Information Literacy	20%
Teamwork	15%
Quantitative Literacy	10%
Intercultural Competence	8%
Creative Thinking	7%
Lifelong Learning	5%
Integrative Learning	5%

- **84%** self-reported observable skill improvement or recognition
- **77%** agreed the simulation was relevant to their program to their desired field of work
- **63%** agreed that the simulation would help them find a job in their desired field or a field related to their program [n=171]

"It did force us to think a little bit more tangibly of what [those skills] actually meant." - Employer

"I could really see how they interpret things, where the gaps are, what we need to [do]." - Faculty

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Supporting Future Skills Articulation

Future Ready Skills Translator
TALENT MANAGEMENT RESOURCES

Creative Thinking

This resource is designed to support internal talent management activities (recruitment, hiring, employee review) based on the results of your job performance expectations survey. Specifically, the provided job description language, interview questions, performance review criteria and self-reflection prompts can help gauge a candidate or employee's capacity for creative thinking.

JOB DESCRIPTION LANGUAGE

The following responsibility statements can be incorporated (as appropriate) into a job description or job posting to help identify candidates who are innovative and imaginative and can create new ideas or combine existing ideas in original ways.

A successful candidate will be able to:

- Adapt an existing approach or create a new approach to work-related tasks.
- Develop logical, consistent plans to solve problems after considering multiple solutions and anticipating potential consequences.
- Incorporate alternate, divergent or contradictory perspectives or ideas.
- Create innovative or unique ideas or products.
- Connect or synthesize ideas or solutions in novel ways.

INTERVIEW QUESTIONS

The following behavioural interview questions position a job candidate to identify when they have previously demonstrated creative thinking in their work and/or lives. Corresponding benchmarks have been provided to help evaluate candidate responses.

- Tell me about a time when you had to use an existing process or approach that you found to be ineffective or insufficient. If you were able to improve upon that process or approach, explain how you went about it; otherwise, discuss how you would have improved upon it.
Benchmark: the candidate describes adapting a process/approach or a related process/approach to better align with specifications or describes creating a new process/approach, perhaps even testing its effectiveness.
- Tell me about a time when you had to navigate alternate, conflicting or contradictory perspectives (e.g. when working as part of a team), how did you productively bring together the different ideas?
Benchmark: the candidate recognizes the value of different perspectives and speaks to incorporating multiple different perspectives in at least one small way.
- Tell me about a time when you had to develop a plan to solve a problem. Why was your solution the most appropriate and how did you know?
Benchmark: the candidate utilizes multiple potential solutions AND/OR provides a good rationale for their solution.

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PERFORMANCE REVIEW CRITERIA

The following criteria can be used to:

- Communicate to employees the developmental levels of creative thinking.
- Evaluate employees' ongoing development of their creative thinking.

EXAMPLE	SKILL	DEVELOPING
Tests or validates a newly created approach to ensure it is effective.	Creates a new approach in alignment with specifications.	Adopts an existing approach in alignment with specifications.
Seeks out new directions or approaches.	Incorporates new directions or approaches.	Considers new directions or approaches.
Articulates reasons for and potential consequences resulting from planned solutions to problems.	Develops logical, consistent plans to solve problems.	Considers and rejects less acceptable approaches to solving problems.
Integrates alternate, divergent or contradictory perspectives or ideas fully.	Incorporates alternate, divergent or contradictory perspectives in small or exploratory ways.	Recognizes the value of alternate, divergent or contradictory perspectives or ideas.
Creates novel or unique idea, question, format or products.	Experiments with creating novel or unique ideas, questions, format or products.	Reformulates a collection of existing ideas.
Transforms ideas or solutions into entirely new forms.	Synthesizes ideas or solutions into a coherent whole.	Recognizes or makes novel connections between ideas or solutions.

SELF-REFLECTION QUESTIONS

The following questions are designed to help inform and foster employees' ongoing, self-directed skill assessment and development. Review the performance criteria for creative thinking and reflect on the various ways you use this essential skill in your work.

- In what components of your current job do you most consistently demonstrate creative thinking?
- In what components of your current job could you more actively engage creative thinking? How might opportunities to apply creative thinking improve your work and/or experience of your work?
- How can you be better supported (by your supervisor, with resources, etc.) to apply creative thinking more extensively and/or productively?

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Virtual Symposium on Skills Translation

Recording available at
<http://www.mohawkcollege.ca/cssicsymposium>

LABOUR MARKET
INFORMATION
COUNCIL

Higher Education
Quality Council
of Ontario

An agency of the Government of Ontario

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Thank You

Website:
<http://www.mohawkcollege.ca/cssic>

Email:
cssic@mohawkcollege.ca
pamela.ingleton@mohawkcollege.ca

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The slide features a dark red background with white and yellow geometric shapes (hexagons and pentagons) on the right side. The text is in white and yellow, providing a high-contrast, professional look.