Module 2

Clarifying Outcomes for Microcredentials

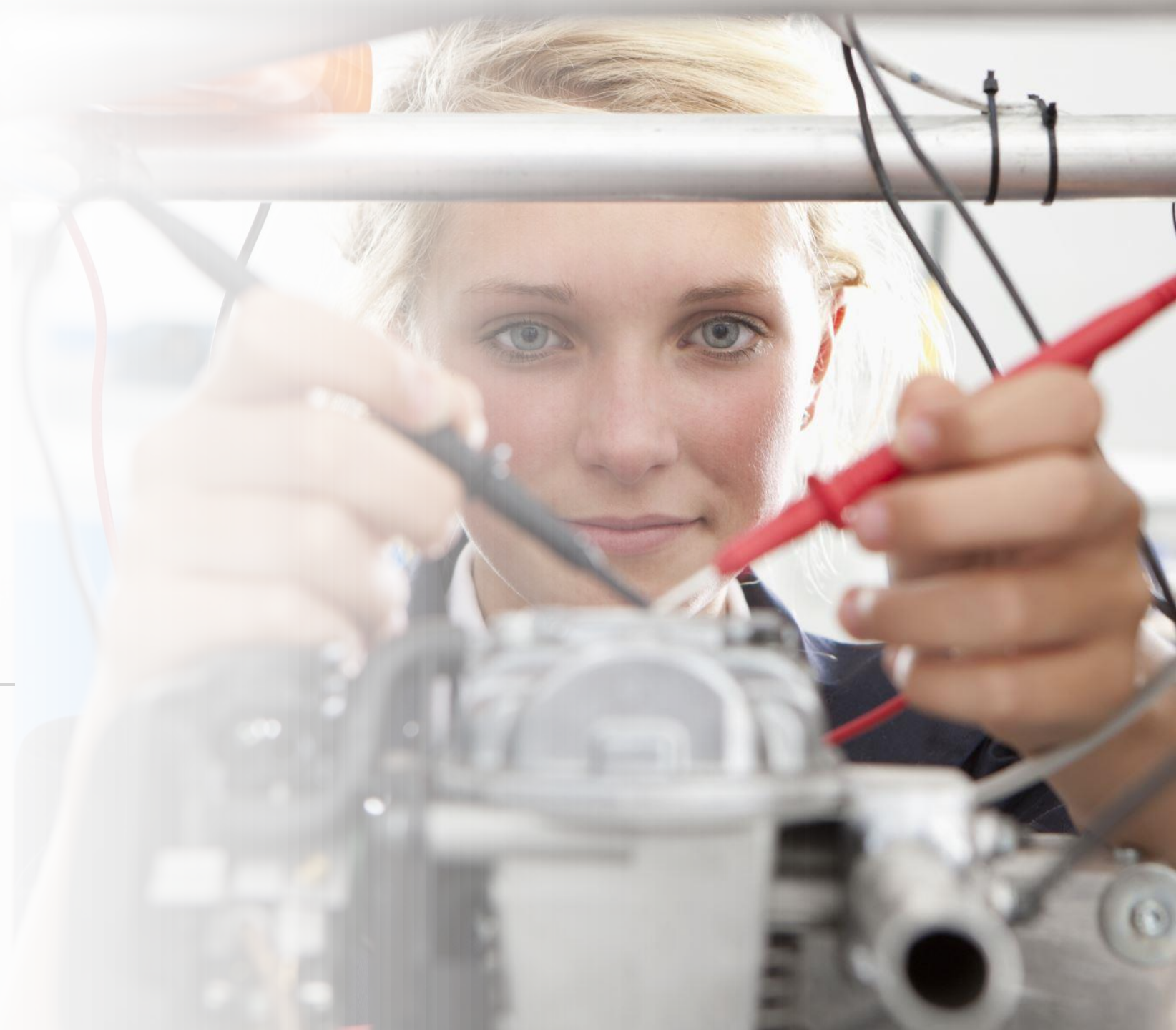UNIVERSITY OF TORONTO

DEFY GRAVITY

Topics explored in this module:

1. Competencies vs. learning outcomes

2. Articulating learning outcomes for microcredentials

3. Exploring learning taxonomies for microcredentials

Note: Additional detailed
information is available in
selected slide notes

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1.Competencies vs. Learning Outcomes

Competencies vs. learning outcomes

In the eCampusOntario guide and in the literature on microcredentials, the term **competency** is generally used to describe a demonstration of a key required skill or knowledge in an applied context. This term is often used by external agencies, funders, and professional certification programs for a general description of demonstrated skills.

In an academic context, we are familiar with the articulation of course **learning outcomes**, articulating more exactly what a learner will be able to do in some measurable way. In this resource, this term is used to describe a detailed breakdown of the applied skills and knowledge needed for the design of a module or segment of learning.

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Examples of competency and related learning outcomes

Example high level competency	Example specific learning outcomes
Manipulate data from relational databases using SQL commands	• Write SQL statements to sort and extract data from multiple tables • Conduct preliminary analysis on retrieved data using aggregate functions
Foster an equity, diversity, and inclusion (EDI) responsive environment in the workplace	• Analyze examples of bias related to concepts of race, culture, identity and diversity in the workplace • Devise feasible plans to promote EDI in the workplace

2. Articulating Learning Outcomes for Microcredentials

Revisiting the first question noted in Module 1:

Backward Design

OUTCOMES

ASSESSMENTS

ACTIVITIES

Microcredential

Define Learning Outcomes:
Q1. What should learners gain or take away from this short course?

Feedback & Assessment:
Q2. How will I know if they are learning what they need to know?

Teaching & Learning Activities:
Q3. Which learning activities will lead to the desired outcomes?

Define learning outcomes

An essential first step is breaking learning into segments, articulating the learning outcomes for each component of the microcredential course or series of modules.
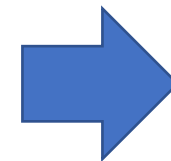
Three questions

A well-written learning outcome should answer these three questions:

What should the students **be able to do**?

What should the students **know to perform as expected**?

In what **context** should the students be able to perform?

→ **Let's look at some examples.**

Action verbs for effective learning outcomes

Use concrete action verbs to clarify what students are expected to achieve in the specific context:

Examples:

- **Write** SQL statements to sort and extract data from multiple tables
- **Analyze** examples of bias related to concepts of race, culture, identity, and diversity in the workplace

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Example action verbs

Analyze	Apply	Communicate
Develop	Evaluate	Explain
Identify	Plan	Prepare

A guide to developing learning outcomes is available from the Centre of Teaching Support & Innovation.

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# 3. Exploring Learning Taxonomies for Microcredentials

What is a Learning Taxonomy?

- Taxonomies of learning are frameworks developed by educational researchers to describe different types of learning.

- They support analysis of learning outcomes and design of activities at an appropriate depth of learning on specific topics and level of skill development.

- Taxonomies can inform assessment development that accurately reports students' progress toward the target outcomes.

- In the materials that follow, two commonly used taxonomies are described.

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Move beyond content: Bloom's Taxonomy

Aim for higher-order thinking skills as shown in Bloom's framework or "taxonomy." Move beyond "remembering" content to develop higher-order thinking skills. This will help learners transfer skills to applications in authentic contexts.

Review Active verbs in Bloom's Taxonomy
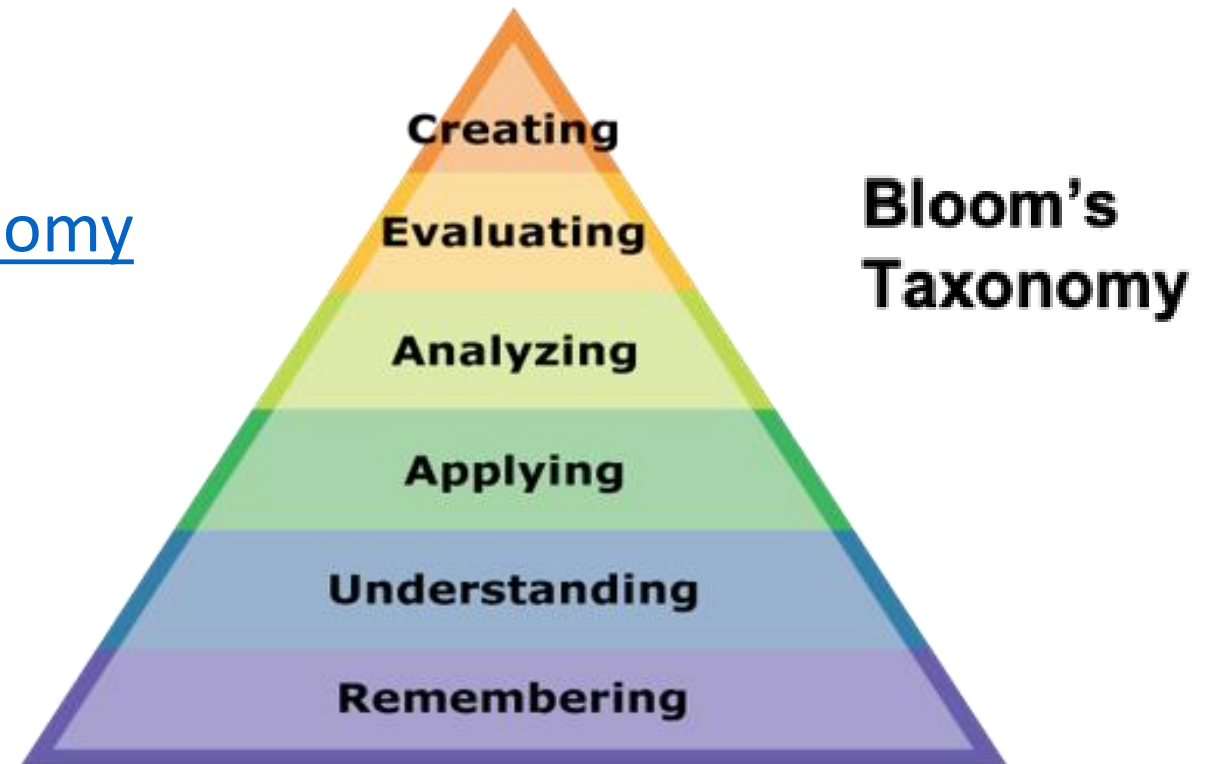
Bloom's Taxonomy (Revised) (Krathwohl, 2002)

Creating

Evaluating

Analyzing

Applying

Understanding

Remembering

Bloom's Taxonomy

Example of organizing learning outcomes using Bloom's taxonomy

| Example competency: Manipulate data from relational databases using SQL commands |
|---|
| **Learning outcomes** |

Remembering	Familiarize with relational database structure and SQL syntax
Understanding	Read SQL statements and understand their functions
Applying	Write SQL statements to sort and extract data from multiple tables in a relational database
Analyzing	Conduct preliminary analysis on retrieved data using aggregate functions
Evaluating	Review the statements to optimize SQL query performances
Creating	Produce and communicate analytical findings based on the manipulated data

An integrated approach: Fink's Model

Another holistic approach to moving beyond foundational knowledge is shown in Fink's taxonomy of significant learning:

Review Action Verbs in Fink's Model

Creating significant learning experiences (Fink, 2013)
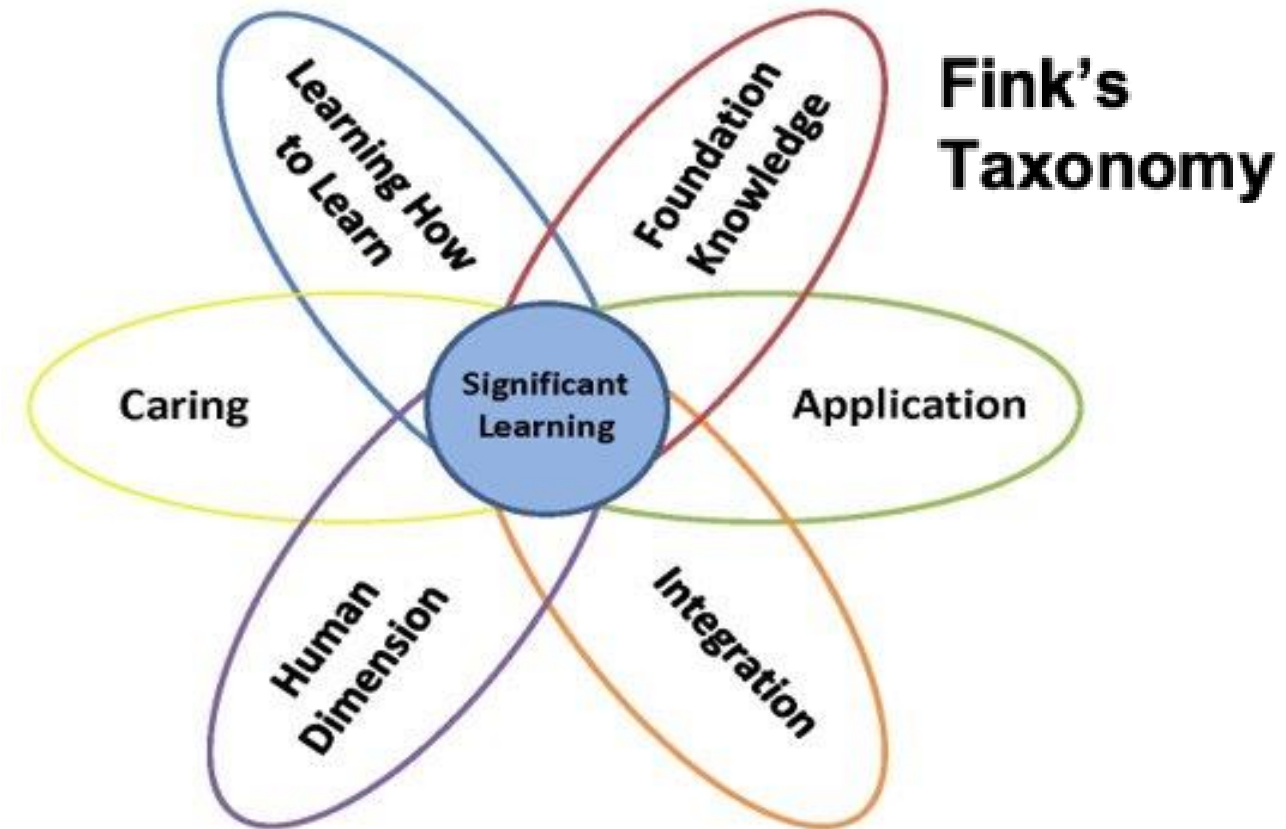
Example of organizing learning outcomes using Fink's model

Example competency: Foster an equity, diversity, and inclusion (EDI) responsive environment in the workplace	
Example learning outcomes*	
Foundational knowledge	Familiarize with core concepts and theories in EDI
Application	Analyze examples of bias related to concepts of race, culture, identity and diversity in the workplace
Integration	Relate core concepts and theories in EDI to real workplace scenarios
Human dimension	Use strategies and theories covered in the course to achieve EDI outcomes in the workplace
Caring	Devise feasible plans to promote EDI in the workplace
Learning how to learn	Reflect merits and limitations of main EDI strategies and strategies based on personal experiences

* Microcredential may focus on a specific learning outcome given short course format. Several modules may be combined or "stacked" to address a range of outcomes.

Planning worksheet 1

- Use [Worksheet 1](#) to plan learning outcomes for a microcredential course

LEARNING OUTCOMES

Module 1 – Topic:	Module 1: Detailed learning outcomes 1. 2. 3.
Module 2 – Topic:	Module 2: Detailed learning outcomes 4. 5. 6.
Module 3 – Topic:	Module 3: Detailed learning outcomes

Summary

Key takeaways for clarifying outcomes

- Articulate learning outcomes as the first stage of backward design

- Use specific action verbs to clarify learning outcomes

- Bloom's and Fink's learning taxonomies are helpful tools to conceptualize higher-order thinking skills and tune target outcomes.

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Contact information
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References

eCampusOntraio. (2021). *eCampusOntraio open competency toolkit*. https://ecampusontario.pressbooks.pub/competencytoolkit/

eCampusOntario. (2022). *eCampusOntario's microcredential toolkit*. https://ecampusontario.pressbooks.pub/microcredentialtoolkit/

Fink, L. D. (2013). *Creating significant learning experiences: An integrated approach to designing college courses*. John Wiley & Sons.

Krathwohl, D. R. (2002). A revision of Bloom's taxonomy: An overview. *Theory into Practice, 41*(4), 212–218. https://doi.org/10.1207/s15430421tip4104_2

Kryterion. (2022). *Meet the snackable, stackable microcredential!*. https://www.kryterion.com/meet-snackable-stackable-micro-credential/

Resources from the University of Toronto

1. Developing learning outcomes

- Developing learning outcomes
- Worksheet 1 drafting learning outcomes.docx

2. Applying Bloom's taxonomy

- Active verbs for Bloom's revised taxonomy
- Blooms-Taxonomy-Handout.docx
- Organizing learning outcomes worksheet.docx (includes worksheet for Fink's model)

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External resources

1. Articulating skills and competencies

- Building your skills

- Competency examples with performance statements

- ESDC skills and competencies taxonomy

2. Applying Bloom's taxonomy and Fink's model

- Horizontal and vertical alignment tools and Bloom's Taxonomy

- Action verbs in Fink's model

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