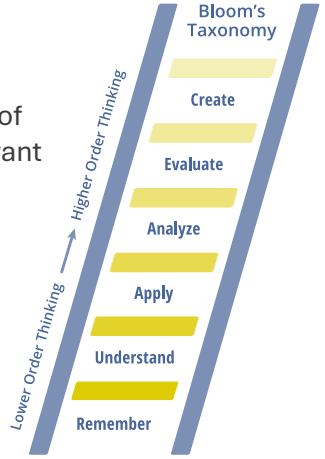
Classifications of Learning

How they relate to learning outcomes

Levels and processes of learning have been classified in various ways. These classifications (taxonomies) of learning help with writing learning outcomes because they provide a framework for articulating what you want students to learn.

There is *no one right way* of writing learning outcomes, and *no one 'best'* classification of learning.

Choose the classification that makes sense to you and what you are teaching, and work from there.



Bloom's Taxonomy - Six Levels of Thinking

Originally developed in the 1950's, Bloom's Taxonomy of Learning has subsequently been updated and used in all sectors of education. It is a hierarchy of learning based on the cognitive, physical and emotional domains of learning, organized across six main categories, starting with lower order thinking and moving upward to higher order thinking skills. The six major categories starting with lower order thinking are:

- Remember
- Understand
- Apply
- Analyze
- Evaluate
- Create

Pros of Bloom

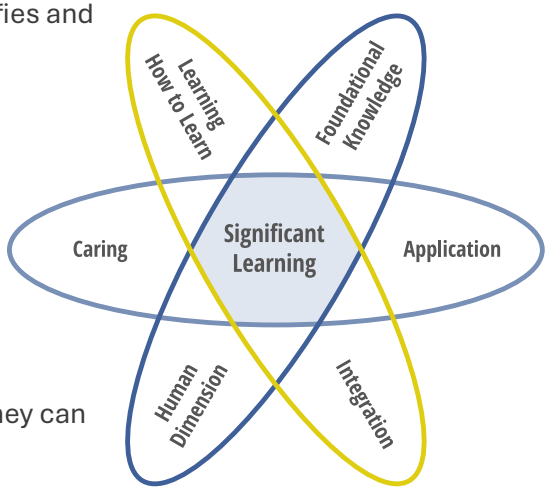
- helps both students and teachers identify what they're aiming for in the learning / teaching process
- provides clear and concise language for explaining *learning outcomes*
- helps us identify the range of thinking processes across cognitive domains to ensure we provide comprehensive learning experiences

Cons of Bloom

- may lead to learning outcomes that overly focus on higher order thinking, disregarding how the lower and higher order levels intersect (e.g., you need to remember/learn some concepts before you can evaluate and create)
- does not include the spiritual aspect of learning (see the **LaFever** section)
- overly focusing on how to articulate learning outcomes using Bloom's list of verbs misses the crucial point of aligning learning outcomes with course activities

Fink - Six Components of Significant Learning

Fink (2013) presents another way to consider the design of significant learning experiences. He identifies and applies six interconnected components:



- **Foundational Knowledge** – students' ability to remember and understand information
- **Application** – learning a new action, whether a new skill, way of thinking or how to manage projects
- **Integration** – making connections between ideas, learning experiences or from one area of life to another
- **Human Dimension** – learning about yourself and others
- **Caring** – developing students' interest in or valuing of the topic
- **Learning How to Learn** – helping students become self-directed, self-regulated learners so they can learn beyond the course

Pros of Fink

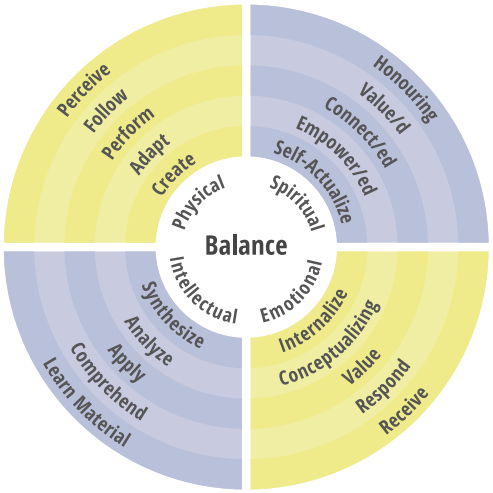
- provides a framework for aligning learning outcomes with assessment
- includes focus 'learning how to learn' and how to promote skills students will use beyond learning content
- it identifies the importance of learning that extends beyond the classroom experience

Cons of Fink

- if you're new to writing *learning outcomes*, Fink 's taxonomy is not as clear as Bloom's in terms of how to apply it
- creating assessments that assess 'caring' can be hard, depending on the discipline
- fewer online resources to support how to apply Fink

LaFever - Indigenizing Learning Outcomes

LaFever has elaborated on the categorizations developed by Bloom and Fink to include a 4-quadrant model based on the Medicine Wheel, that includes the spiritual aspect of learning. By including the additional 'spiritual domain,' LaFever provides a model for indigenizing learning outcomes and course design.



The Spiritual Domain Includes:

- **Honouring** – refers to being conscious and aware of our own thoughts and feelings, without judging, and being open to new experiences
- **Value/d** – refers to relationship building that acknowledges the importance and worth of qualities relating to spiritual well-being
- **Connect/ed** – relates to developing a sense of group belonging (e.g., in the classroom, community etc.)
- **Empower/d** – relates to an giving and receiving support in an environment that fosters confidence and strength
- **Self actualize/d** – becoming who we are meant to be

Pros of LaFever

- spiritual domain is added to a taxonomy with which many people are already familiar (Bloom)
- is more inclusive for indigenous students and for diverse students in general
- invites us to reimagine how we teach and assess in ways that also support mental health and well-being

Cons of LaFever

- typical college modes of assessment do not lend themselves well to assessing the spiritual domain of learning
- more challenging for non-indigenous instructors to apply appropriately and without inadvertently reinforcing colonial approaches
- requires reinterpreting the roles of both the teacher and students (which may be easier in some areas than others)

Sample Verbs & Progression for Creating Outcome Statements

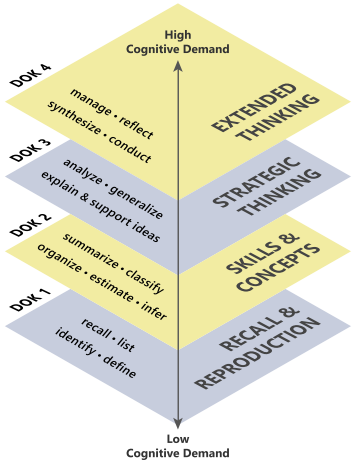
Honouring	Value/d	Connect/ed	Empower/ed	Self-Actualize/d
• consider • mediate on • be aware • seek • allow • listen • observe	• empathize • honour • acknowledge • balance • exemplify	• consult • work with • support • cooperate • participate • develop	• gain • speak out about • advocate • act on • defend • influence	• become • self-define • sustain • possess • dream

As a way of thinking about the more spiritual aspects of learning, explore this infographic "Humanizing your Online Class (PDF).

Handouts:

- Switching from Bloom to the Medicine Wheel – Complete Article By LaFever – PDF Version

Webb - Four Levels of Knowledge



Webb (1997) offers a cognitive approach to learning, identifying four levels of knowledge:

- **Recall and Reproduction** – includes basic tasks that require students to recall or reproduce knowledge and/or skills, working with facts, terms and/or properties of objects
- **Skills and Concepts** – content at this level involves working with a set of principles and categories
- **Short-Term Strategic Thinking** – items falling into this category demand a short-term use of higher order thinking processes, such as analysis and evaluation, to solve real-world problems with predictable outcomes
- **Extended Thinking** – curricular elements assigned to this level demand extended use of higher order thinking processes such as synthesis, reflection, assessment and adjustment of plans over time

Each **Depth of Knowledge (DOK)** is applied to each learning outcome. More specifically, the DOK level assigned should:

- reflect the level of work students are most commonly required to perform in order for the response to be deemed acceptable
- reflect the complexity of the cognitive processes demanded by the task outlined by the objective, rather than its difficulty
- be assigned based upon the cognitive demands required by the central performance described in the objective

Pros of Webb

- levels of knowledge are clearly identifiable
- provides clear outline on how to apply the taxonomy to writing learning outcomes

Cons of Webb

- less information is provided on intersection between the different levels of thinking
- fewer resources available online to support implementing this taxonomy
- does not include the affective / spiritual domains of learning

	Explore Webb's Depth of Knowledge for Content Areas (PDF Version) for ideas on how to apply Webb's framework to designing learning outcomes to specific subject areas.

	Handouts: • Webb Quick Summary – PDF Version • Webb's Depth of Knowledge Guide – PDF Version
	Additional Resources: • Edutopia – Using Webb's Depth of Knowledge to Increase Rigor (Web Page) for tips on optimizing student engagement by looking at student learning experiences in terms of level of complexity of thought