Course Design Fundamentals Worksheet

Intended Learning Outcomes

Concepts

(Content: Knowledge, Skills and Values)

Teaching & Learning Strategies

Methods

Formative/ Summative Assessment
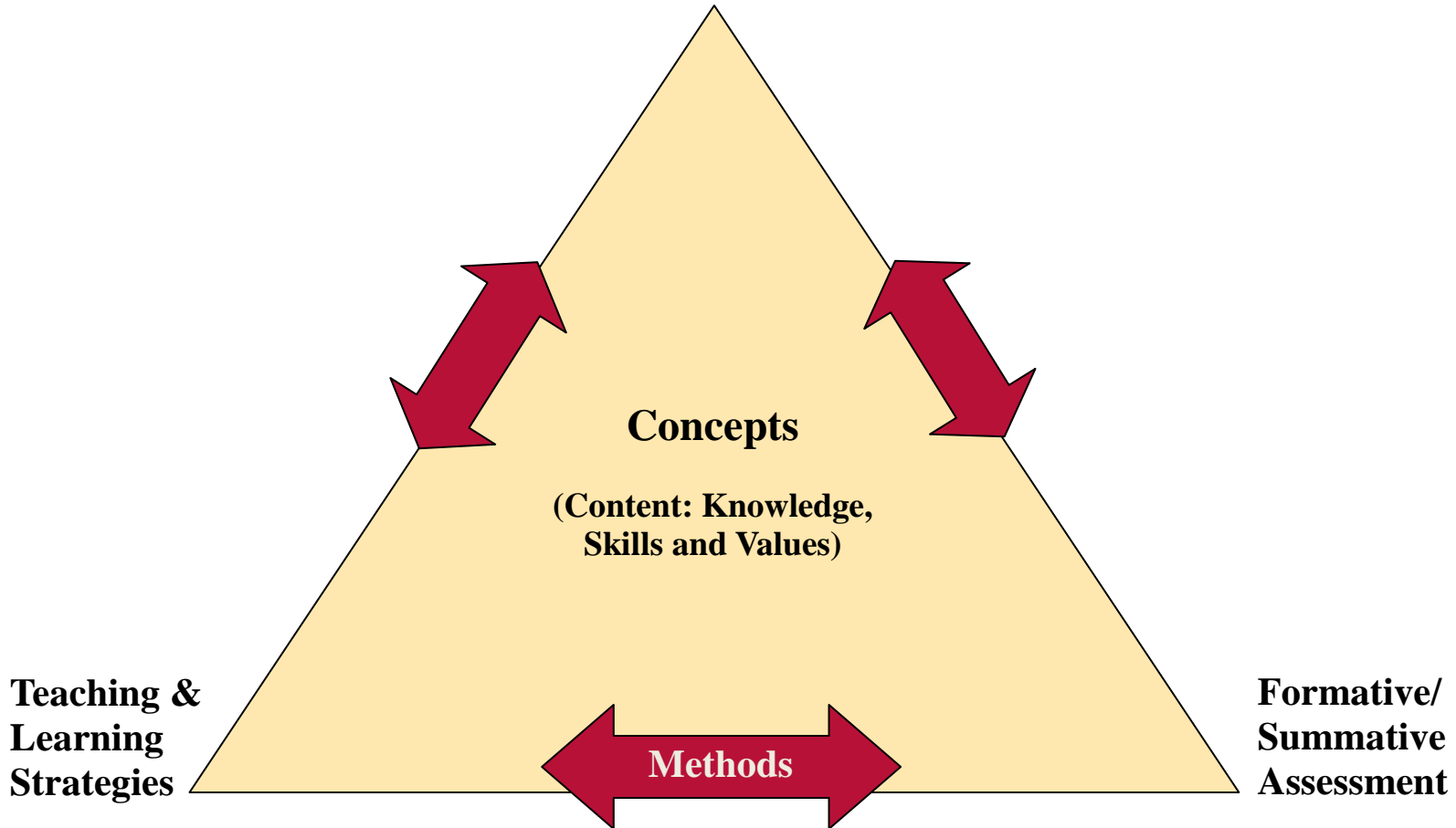
Adapted from: Ellis, D. & Light, T. (2006) *Teaching Excellence Academy*. University of Waterloo.

Goal: Create a*lignment* among these elements

Intended Learning Outcomes (ILOs)
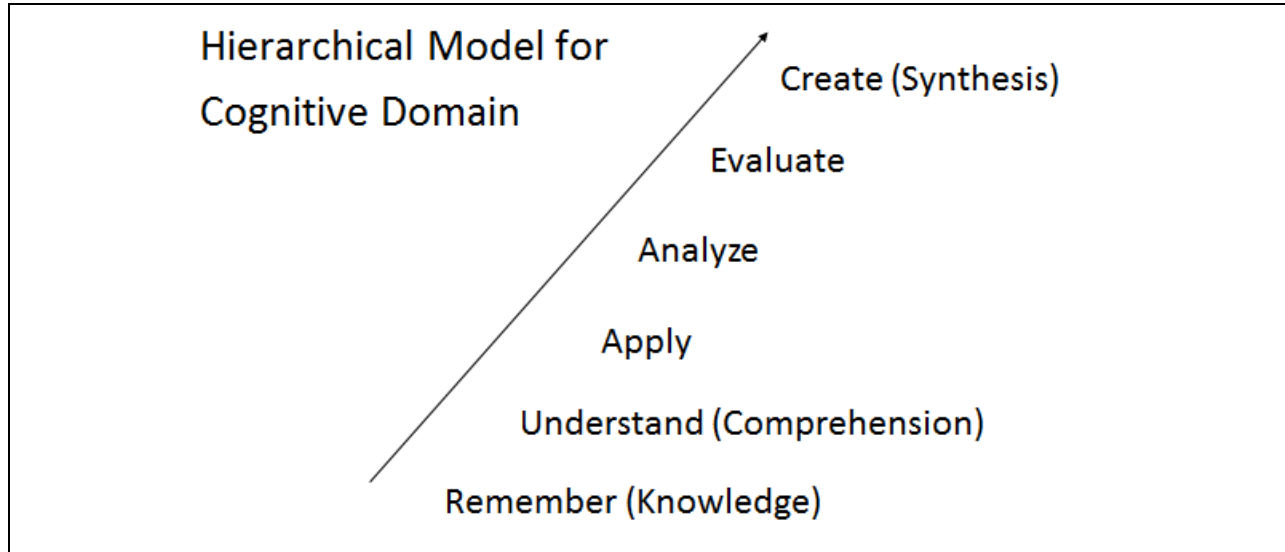
Writing Outcomes

- Focus on learners – what they should be able to do, know, and/or feel by the end of your course
- Start with a "strong" verb (and hence, are action-oriented) – solve, design, write, evaluate, describe, define – versus "weak" verbs – know, understand, appreciate. (Use only one verb per learning outcome to ensure they remain specific.)
- Are assessable in some way. (How will I know the student has achieved the outcome? Can the outcome be reasonable accomplished and demonstrated by the student within the timeframe of the course?)
- Ensure that the ILOs for different units of instruction map on to each other. (Doe the learning outcomes for the class relate to the learning outcome for the course? For the program?)

Examples

- Define key terms and concepts in urban planning
- Apply chemical engineering principles and practices to case studies
- Recognize and apply types of criticism in their reading and writing of texts
- Evaluate risk factors for work-related injuries
- Sketch graphs of functions using spherical coordinate systems
- Demonstrate proper protocols and operating procedures for common scientific equipment

A tool commonly used to assist with the writing of learning outcomes (and assessment questions) is the *Taxonomy of Educational Objectives* by Bloom, Englehart, Furst, Hill and Krathwohl. In 1956, Benjamin Bloom headed a group of educational psychologists who developed a classification of levels of intellectual behavior important in learning. During the 1990's a new group of cognitive psychologists, led by Lorin Anderson (a former student of Bloom), updated the taxonomy to reflect relevance to 21st century work. The revised categories of Bloom's Taxonomy in the cognitive domain are summarized in the figure on the next page. Bloom's Taxonomy was originally created in and for an academic context to assist in the design and assessment of educational learning. It is considered to be a foundational and essential element within the education community.

Bloom's Taxonomy

Hierarchical Model for
Cognitive Domain

Create (Synthesis)

Evaluate

Analyze

Apply

Understand (Comprehension)

Remember (Knowledge)

Source: Anderson, L.W., & Krathwohl, D.R. (Eds.). (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives.* New York, NY: Addison Wesley Longman, Inc.

Expressive Outcomes

Learning outcomes often focus on a learner's ability to demonstrate achievement of a specific standard. However, there are times when learning is less predictable or concrete. How do we, for example, measure a student on his/her appreciation of artwork? In these cases, you may wish to frame your outcomes in terms of expressive outcomes, which "are the consequences of curriculum activities that are intentionally planned to provide a fertile field for personal purposing and experience" (Eisner, 1985, p. 120).

Source: Eisner, E. W. (1985). The *educational imagination: On the design of evaluation of school programs*. (2nd Ed.). New York: Macmillan.

Learning Outcomes and Curriculum Design

The "backwards design" approach to curriculum development advocated by Wiggins and McTighe (2005) places learning outcomes front and center. In this approach, the desired results (or intended learning outcomes) are identified first followed next by the determination of the types of assessment that would provide acceptable evidence that the ILOs have been met. Lastly, teaching and learning activities are planned that will enable students to meet the intended learning outcomes.

Source: Wiggins, G.P. and McTighe, J. (2005). *Understanding by Design* (2nd Ed.). Alexandria, VI: Association for Supervision and Curriculum Development.

Write your outcomes for your course

"By the end of my course, the students should be able to…"

Checking questions:
- Are the ILOs specific?
- Do they focus on the learner instead of the instructor?
- Do they fit with the contextual factors?
- Do they fit with the philosophy?
- Do they encompass the content areas?
- Do they indicate what students should be able to do, know, and/or feel by the end of the course?

Course Content

Revisit the course content list and ask yourself the following questions:

- What content could I remove and still enable the students to meets the ILOs?
- Are my ILOs about more than topical content? What skills or attitudes do I also want to develop in my students?

Adjust your "content" list as needed, and check it against your intended learning outcomes. Also consider that you only have 12 teaching weeks in a term at the University of Waterloo.

Formative & Summative Assessments

Q: What formative and summative assessment choices will allow you to assess how well students are meeting your intended learning outcomes?

Remember: the choices should include opportunities for students to receive ungraded feedback about their work, in addition to the graded final assessments of their work.

Teaching and Learning Activities

Q: What teaching and learning activities will you use to help prepare your students for the assessment methods?

Remember: you don't have to do all the teaching, and the teaching doesn't all have to happen during scheduled class time. Also consider using multiple strategies for the same outcome to include as many students as possible in the learning process.

Questions to consider as you develop your teaching and learning activities and assessments:
- How are you assessing how well your students are meeting your learning outcomes?
- Are your teaching activities designed so that your students can do the assessments?
- How do your assessments and teaching activities influence what you teach?
- Given your context, what assessment opportunities do you have? (This may include resource constraints – TAs, number of students, department requirements, etc.)
- What can you do in class and what could or should be done outside of class? (This applies to both the assessment and teaching activities.)
- What needs to be graded versus ungraded?
- What are the demands on your students in their other courses?

Final checking questions: Have you assessed your intended learning outcomes? Have you taught so that your students can do the assessment activities?

Course Planning Matrix

Intended Learning Outcomes	Assessment Methods					
	a.	b.	c.	d.	e.	f.
1.						
2.						
3.						
4.						
5.						
6.						
Grading Breakdown						

Q: Are all the outcomes of equal importance? Should I weigh some outcomes more heavily?

Summary of Alignment

Intended Learning Outcomes	Teaching and Learning Strategies	Assessment Methods