LEARNING OUTCOMES

Bloom’s Cognitive Taxonomy

- **create**: combine, compose, create, design, improve, formulate, hypothesize, invent, synthesize
- **evaluate**: appraise, defend, dispute, critique, prioritize, editorialize, justify, rate, select, verify
- **analyze**: appraise, compare, contrast, differentiate, distinguish, examine, infer, sequence, defend
- **apply**: classify, demonstrate, calculate, illustrate, solve, practice, modify, restructure
- **examine**: analyze, compare, contrast, differentiate, distinguish, examine, infer, sequence, defend
- **recall**: define, duplicate, reproduce, list, recall, tell, underline

- **action verbs**: examine, analyze, recall, apply, create, evaluate
- **assessments**: portfolio, new product, Capstone/research project, game development, reflection

**Higher Order Thinking**

- **Internalizing**: action verbs: act, advocate, exemplify, influence, propose, question, solve
- **Organizing**: action verbs: adapt, combine, compare, formulate, defend, order, relate, synthesize
- **Valuing**: action verbs: adopt, explain, initiate, justify, propose, show concern for, share, respect
- **Responding**: action verbs: answer, assist, discuss, help, contribute, recite, tell, write
- **Receiving**: action verbs: acknowledge, ask, follow, identify, listen, locate, reply

**Affective Taxonomy** (Krathwohl, D.R., 1964)

- **Naturalizing**: action verbs: compose, construct, create, design, refine, originate
- **Articulating**: action verbs: adapt, alter, combine, modify, revise, transfer, troubleshoot
- **Precising**: action verbs: achieve, accomplish, calibrate, excel, master, refine
- **Manipulating**: action verbs: assemble, build, complete, execute, operate, perform, use
- **Imitating**: action verbs: copy, follow, mimic, replicated, reproduce, trace

**Psychomotor Taxonomy** (Simpson, E.J., 1972, Gronlund, N.E., 1985)

- **Naturalizing**: description: Mastering and internalizing skills for automatic high-quality performance
- **Articulating**: description: Integrating well developed skills for adaptations
- **Precising**: description: Skills performed quickly, smoothly, accurately with full confidence and proficiency
- **Manipulating**: description: Repeating an action following instruction with some confidence and proficiency
- **Imitating**: description: Observing then repeating an action that has been demonstrated

Other taxonomies that may be useful in generating LOs and assessments:

- **Affective Taxonomy** (Krathwohl D.R., 1964) refers to attitudes, motivations, values of the discipline
- **Psychomotor Taxonomy** (Simpson, E.J., 1972, Gronlund, N.E., 1985) refers to kinesthetic, manual, motor skills

Evidenced in all courses where we set expectations for student engagement such as: displays of equity, effort, inquiry, participation, respect, reflection, valuing of educational context and life-long learning.

- Assessments include: checklist, rating scale, journal, essay, editorial, reflection, debate, case study, peer assessment, project

Evidenced in lab, vocational, clinical, performing arts and specific equipment training courses.

- Assessments include: checklist, rating scale, demonstration, role play, simulation, troubleshooting, innovating, constructing
Learning Outcomes

A Learning Outcome (LO) is a measurable, observable, and specific statement that clearly indicates what work-related knowledge, skills and abilities a student should know and be able to demonstrate as a result of learning.

Well-written LOs involve the following parts:

- **Action verb**
- **Subject content**
- **Level of achievement**
- **Condition of performance**

For example:

Upon successful completion of the course, the student will reliably demonstrate the ability to:

**LO1.** List areas of consensus and disagreement among publications on global warming.

**LO2.** Synthesize learning assignments with vocation-specific expectations using reflective enquiry.

Quality curriculum stems from a student-centred approach to learning, and is based on aligning course LOs, course description and assessment tasks.

Curriculum Alignment Cycle