

# LEARNING OUTCOMES

## ANOTHER LOOK AT Bloom's Cognitive Taxonomy

Intended LOs align to learning and assessment tasks

<b>create</b>	<b>action verbs:</b> combine, compose, create, design, improve, formulate, hypothesize, invent, synthesize	<b>assessments:</b> portfolio, new product, Capstone/research project, game development, reflection	Course Learning Outcomes
<b>evaluate</b>	<b>action verbs:</b> appraise, defend, dispute, critique, prioritize, editorialize, justify, rate, select, verify	<b>assessments:</b> critique, case studies, peer/self assessment, recommendation, report, reflection	
<b>analyze</b>	<b>action verbs:</b> appraise, compare, contrast, differentiate, distinguish, examine, infer, sequence, defend	<b>assessments:</b> charts, plan, review, survey, observation, case studies, trouble-shooting	
<b>apply</b>	<b>action verbs:</b> classify, demonstrate, calculate, illustrate, solve, practice, modify, restructure	<b>assessments:</b> presentation, model-building, simulation, demonstration, collection, interview	
<b>examine</b>	<b>action verbs:</b> describe, discuss, expand, identify, locate, outline, report, restate, represent, edit	<b>assessments:</b> drawing, paraphrasing, peer teaching, summary, infographs, Tagxedo	
<b>recall</b>	<b>action verbs:</b> define, duplicate, reproduce, list, recall, tell, underline	<b>assessments:</b> definitions, fact charts, lists, worksheets, quizzes, digital story board	Elements of Performance

HIGHER ORDER THINKING

LOWER ORDER THINKING

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**  
 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
- Psychomotor Taxonomy** (Simpson, E.J., 1972, Gronlund, N.E., 1985) refers to **kinesthetic, manual, motor skills**  
 Evidenced in lab, vocational, clinical, performing arts and specific-equipment training courses.
  - » Assessments include: checklist, rating scale, demonstration, role play, simulation, troubleshooting, innovating, constructing

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

<b>internalizing</b>	<b>description:</b> Complete integration of info/experience resulting in new attitudes, beliefs, values, and behaviour	<b>action verbs:</b> act, advocate, exemplify, influence, propose, question, solve
<b>organizing</b>	<b>description:</b> Incorporate new info/experience into existing value systems	<b>action verbs:</b> adapt, combine, compare, formulate, defend, order, relate, synthesize
<b>valuing</b>	<b>description:</b> Attach value or worth to new info/experience	<b>action verbs:</b> adopt, explain, initiate, justify, propose, show concern for, share, respect
<b>responding</b>	<b>description:</b> Respond through active participation to new info/experience	<b>action verbs:</b> answer, assist, discuss, help, contribute, recite, tell, write
<b>receiving</b>	<b>description:</b> Awareness of new info/experiences	<b>action verbs:</b> acknowledge, ask, follow, identify, listen, locate, reply

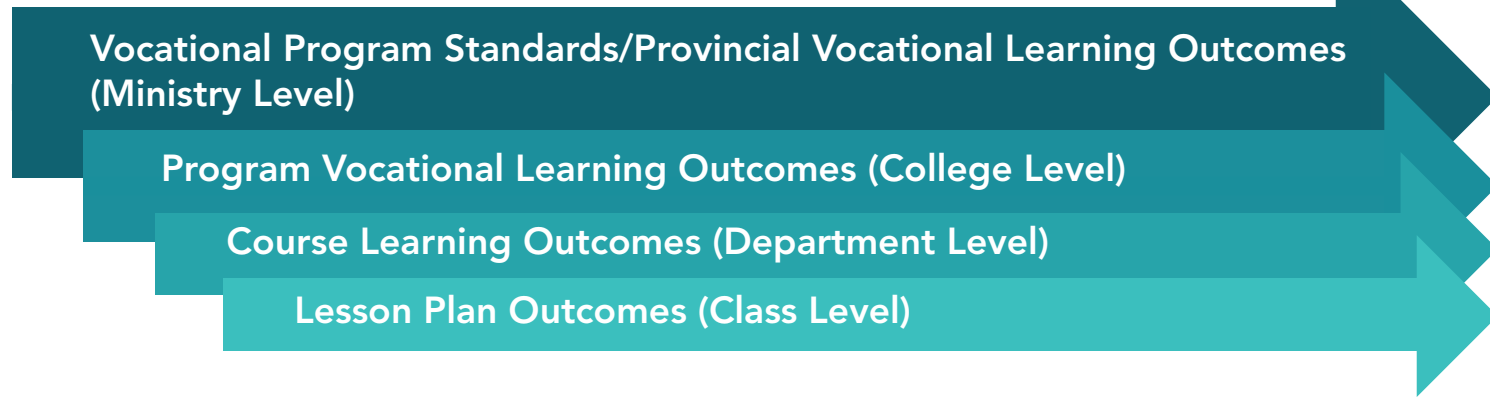
## Psychomotor Taxonomy (Simpson, E.J., 1972, Gronlund, N.E., 1985)

<b>naturalization</b>	<b>description:</b> Mastering and internalizing skills for automatic high-quality performance	<b>action verbs:</b> compose, construct, create, design, refine, originate, invent
<b>articulation</b>	<b>description:</b> Integrating well developed skills for adaptations	<b>action verbs:</b> adapt, alter, combine, modify, revise, transfer, troubleshoot
<b>precision</b>	<b>description:</b> Skills performed quickly, smoothly, accurately with full confidence and proficiency	<b>action verbs:</b> achieve, accomplish, calibrate, excel, master, refine
<b>manipulation</b>	<b>description:</b> Repeating an action following instruction with some confidence and proficiency	<b>action verbs:</b> assemble, build, complete, execute, operate, perform, use
<b>imitation</b>	<b>description:</b> Observing, then repeating an action that has been demonstrated	<b>action verbs:</b> copy, follow, mimic, replicated, reproduce, trace

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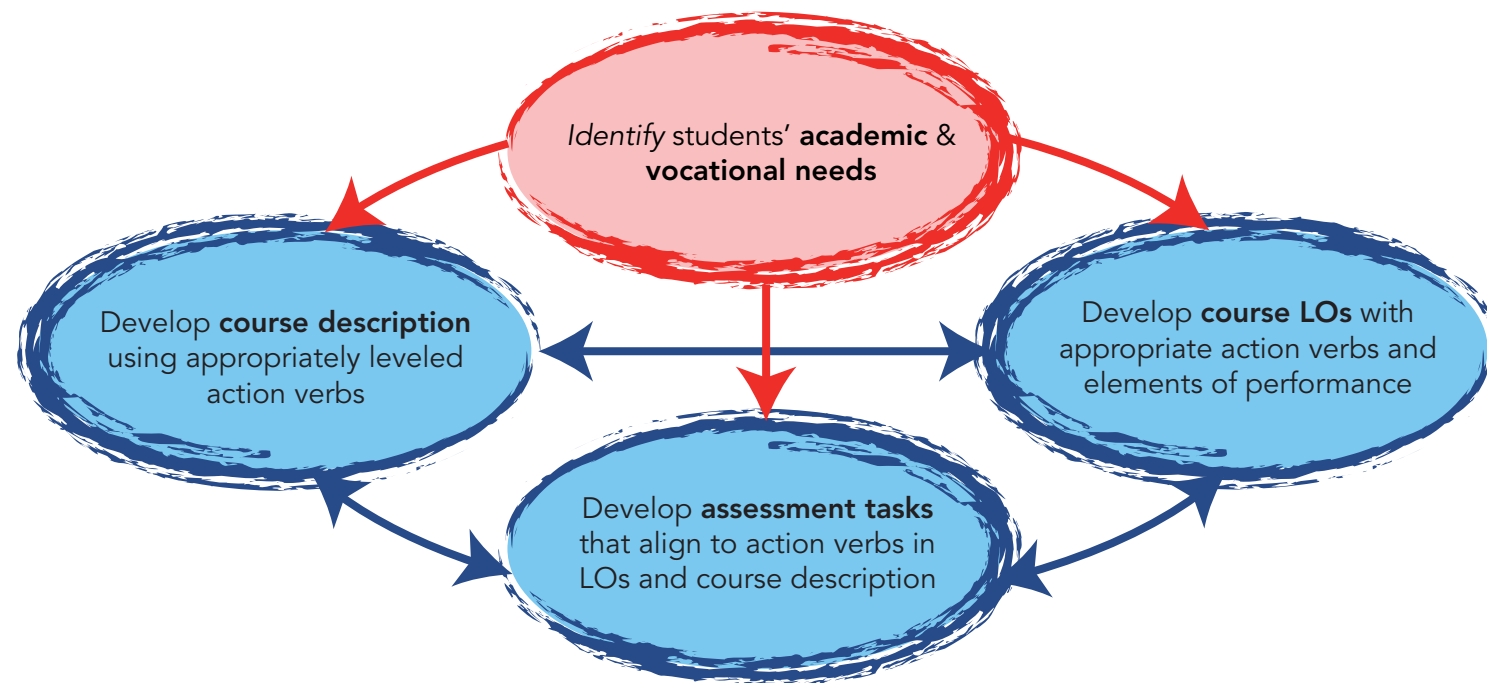
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## LOs in the Ontario College System



## Curriculum Alignment Cycle

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



Please contact a Centre for Teaching & Learning team member for more information by visiting [mohawkcollege.ca/CTL](http://mohawkcollege.ca/CTL)

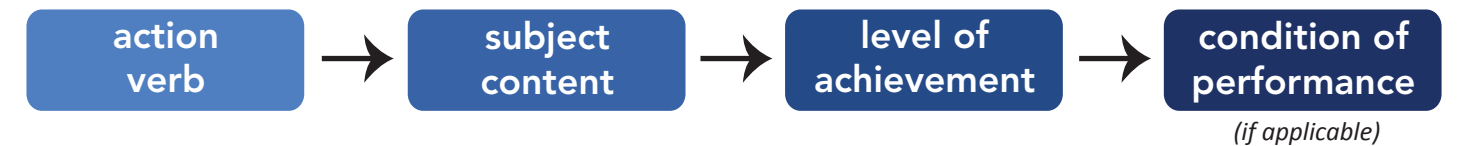
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# LEARNING OUTCOMES

## 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:



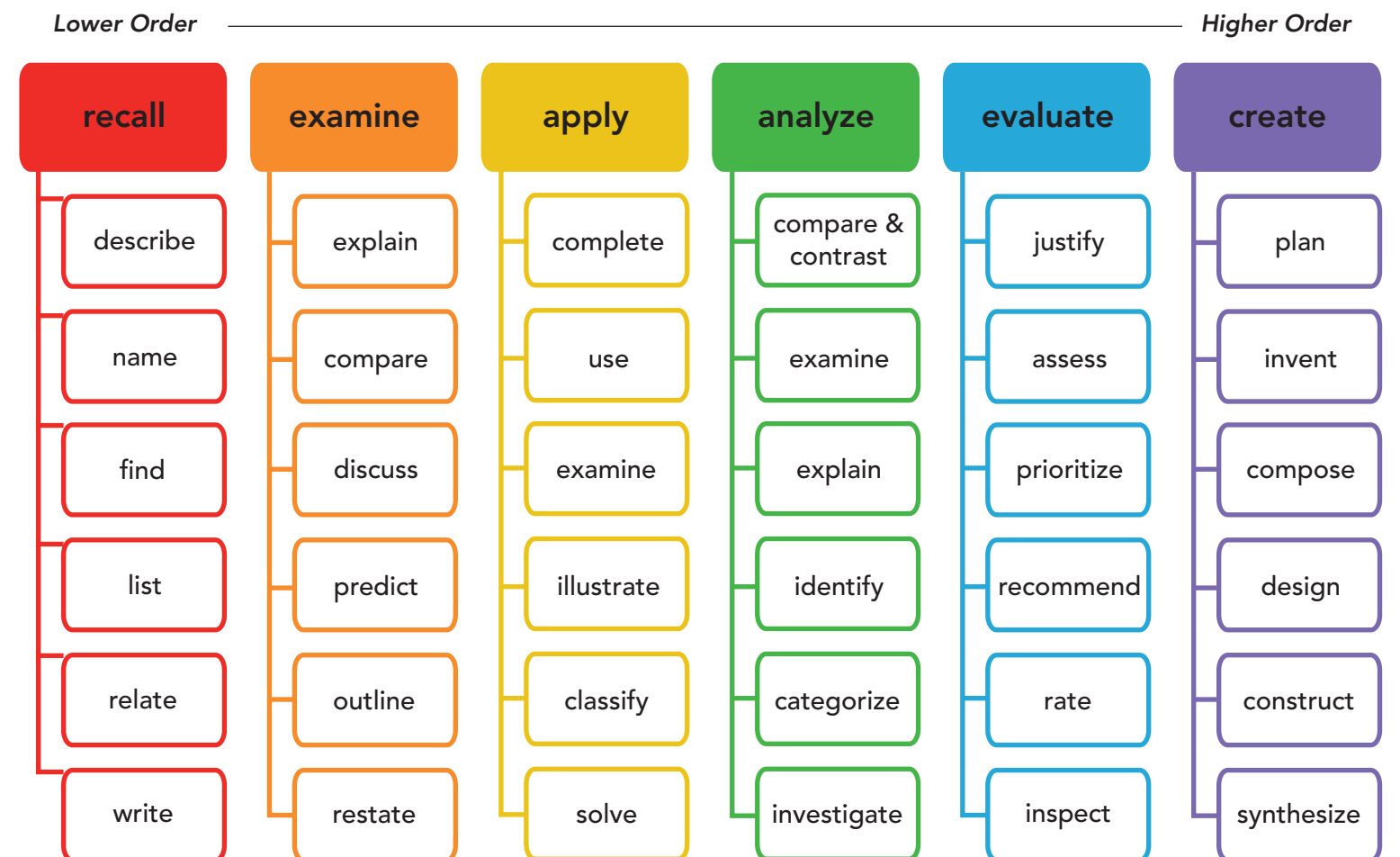
For example

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.

## Generating LOs using Bloom's Cognitive Taxonomy (adapted 2019)



Retrieved from <http://maasd.edublogs.org/2012/26/linking-ipads-blooms-taxonomy/>

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