LEARNING OBJECTIVES AND OUTCOMES

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SESSION OBJECTIVES

Equip participants with an understanding of the difference between learning objectives and outcomes and how they function at various levels of course design and delivery

Introduce Bloom’s Taxonomy as a essential tool in designing learning outcomes

Equip participants with a step by step process for creating learning outcomes

Provide participants the opportunity to practice the skill of development learning outcomes

> *"Education is not the learning of facts. It is rather the training of the mind to think" (Alberta Einstein)*

Write, Pair, Square, Share

Introduce yourselves before discussing the prompts.

What do you know about learning objectives?

Are learning objectives different from learning outcomes?

Formative Pre-Assessment

SESSION LEARNING OUTCOMES

By the end of this session, participants should be able to:

- **Explain** the difference between course objectives and outcomes
- **Describe** how outcomes function at the level of the course and lesson
- **Discuss** how outcomes are useful for students and instructors
- **Explain** Bloom's Taxonomy of Learning and describe how it supports outcomes
- **Describe** the steps for writing SMART outcomes
- **Evaluate** learning outcome exemplars
- **Create** two SMART outcomes for a lesson plan

COURSE OBJECTIVES	COURSE OUTCOMES
Students will understand fundamental principles, theories of X	Students will demonstrate knowledge of fundamental principles, theories by **APPLYING** them to case studies.
Students will learn factual knowledge about X (e.g. terms)	Students will correctly **USE** terms and **EXPLAIN** their meaning

https://provost.asu.edu/sites/default/files/page/1595/student-learning-outcomes.pdf

LEARNING [COURSE/LESSON] OUTCOMES ARE STATEMENTS THAT INDICATE “WHAT A LEARNER IS EXPECTED TO KNOW, UNDERSTAND/OR BE ABLE TO DEMONSTRATE AFTER THE COMPLETION OF THE LEARNING PROCESS.”

(Kennedy et. All, 2006, p. 6)

IF YOU WANT STUDENTS TO “FIND A LIFETIME OF JOY IN CONTINUED LEARNING, ABOUT YOUR SUBJECT, YOU NEED TO TRANSLATE THOSE DREAMS INTO EXPLICIT GOALS FOR THE COURSE YOU TEACH.”

L Dee Fink, Creating Significant Learning Experiences: An Integrated Approach to Designing College Courses, 2013, 81

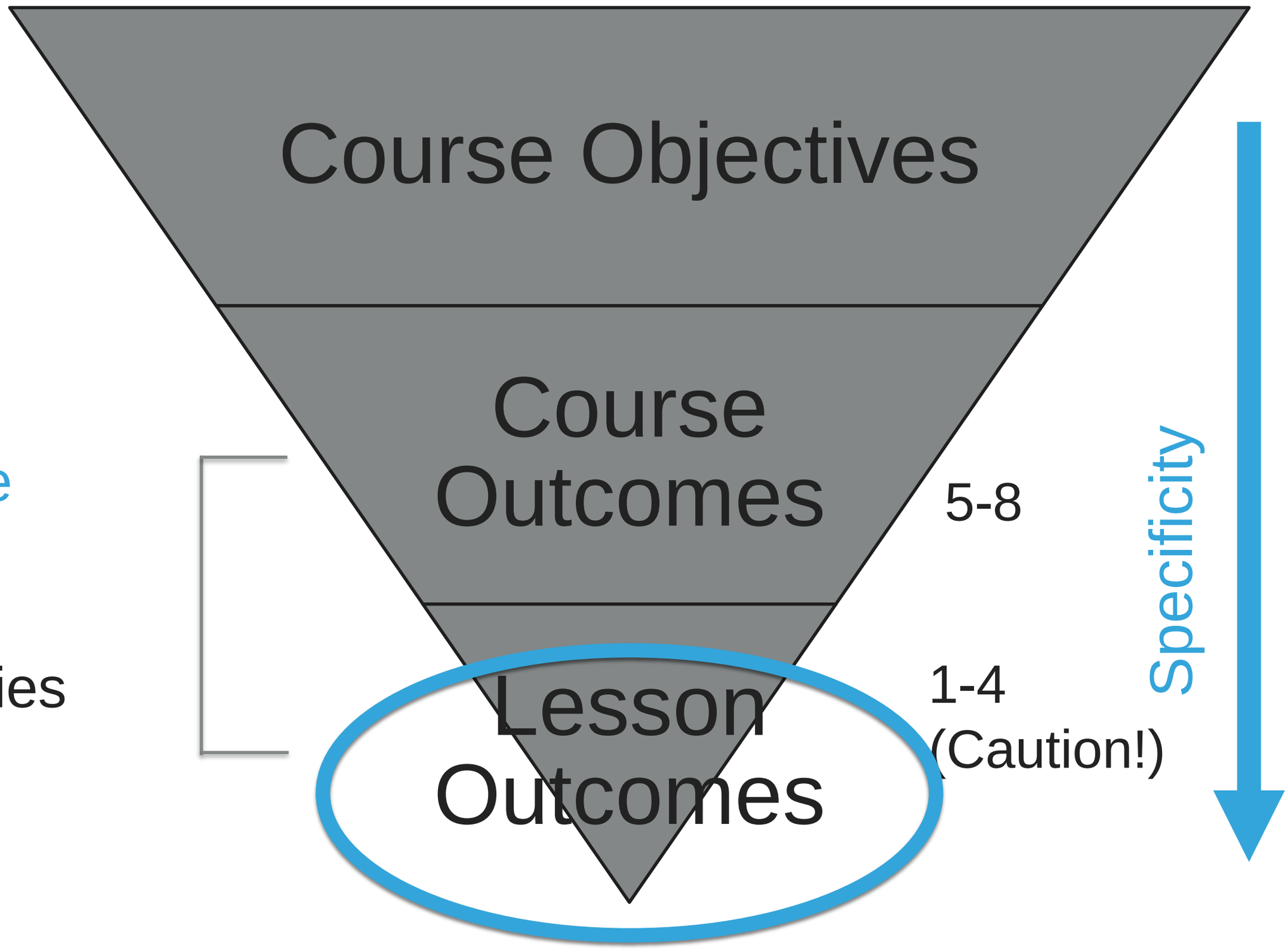
SESSION LEARNING OUTCOMES

✓

- **Describe how outcomes function at the level of the course and lesson**
- Discuss how outcomes are useful for students and instructors
- Explain Bloom’s Taxonomy of Learning and describe how it supports outcomes
- Describe the steps for writing SMART outcomes
- Evaluate learning outcome exemplars
- Create 2 SMART outcomes for a lesson plan

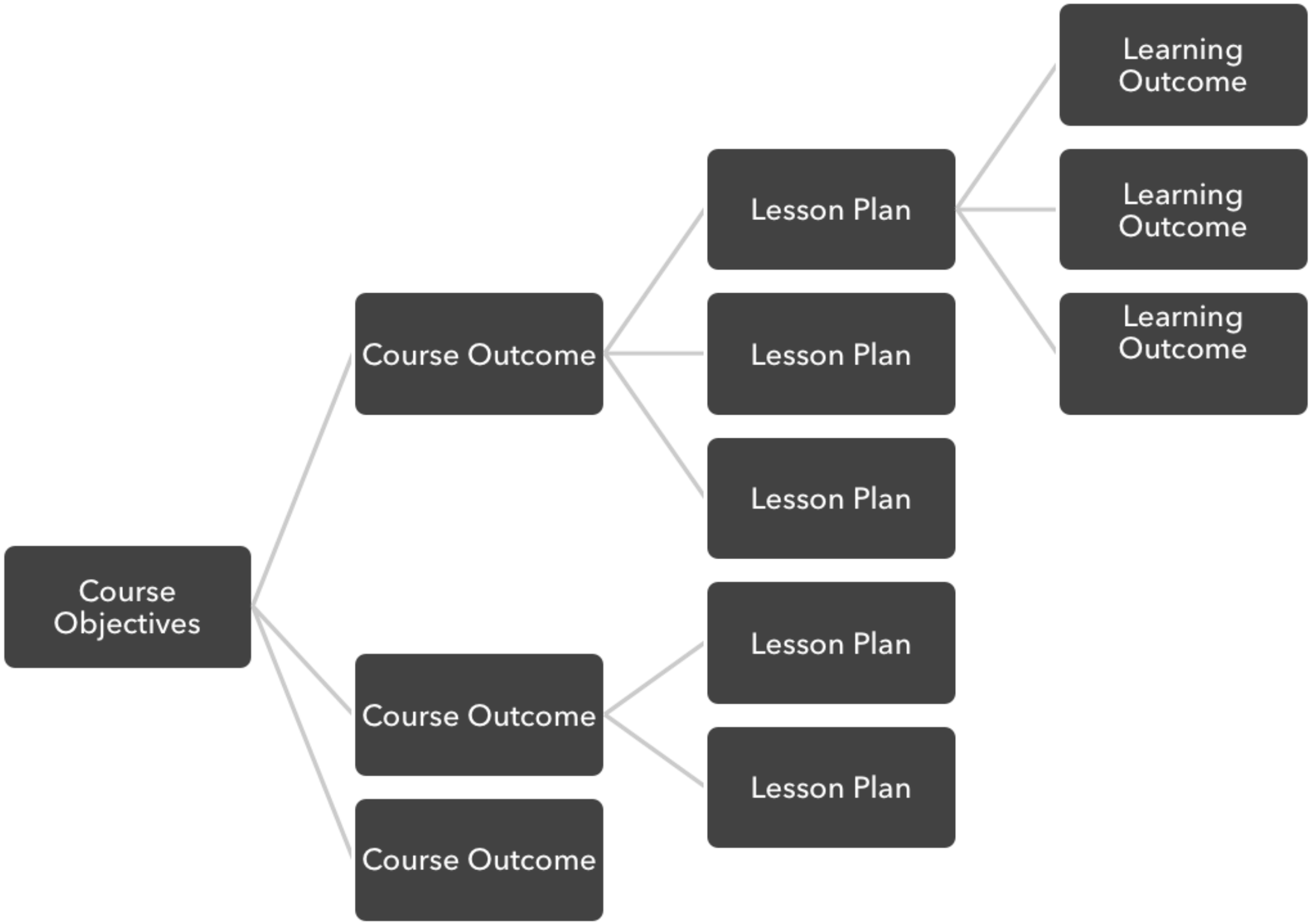
Broad description of content, main goals

Measurable skills, knowledge, competencies



https://resources.depaul.edu/teaching-commons/teaching-guides/course-design/Pages/course-objectives-learning-outcomes.aspx

Mapping Objectives and Outcomes



In your “square” groups

Why are learning outcomes useful for instructors and students?

Formative Pre-Assessment

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THE GUIDING LIGHT FOR INSTRUCTORS

- Focused, strategic, purposeful
  - Content selection
  - Teaching approach
  - Active learning activities
  - Development of instructional materials
- Fair, strategic grading and assessment
- Decreased instructor frustration
- Fewer grade complaints/appeals

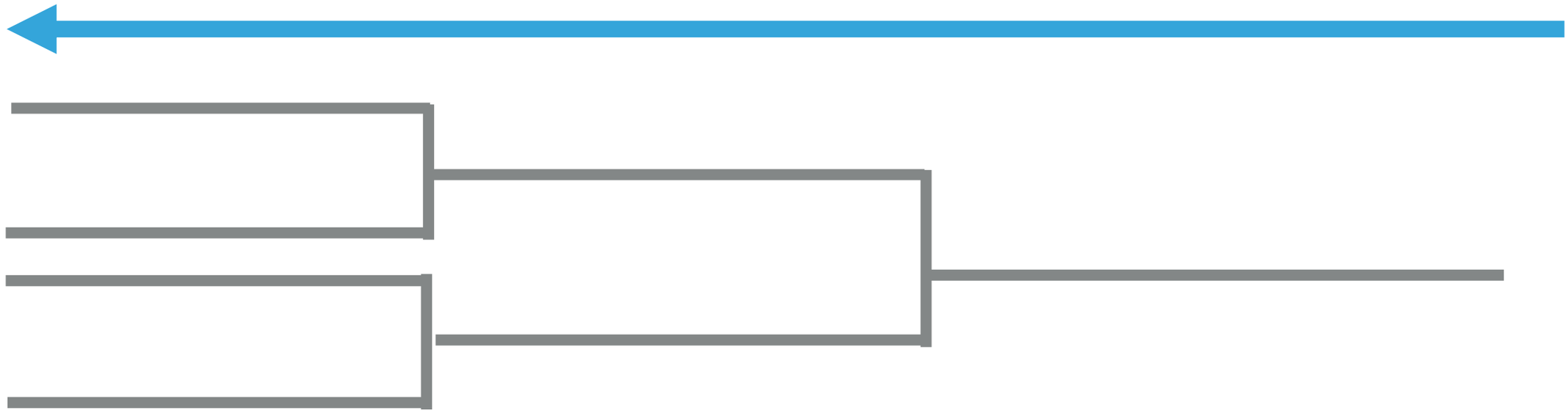
Image: https://www.cdvs.ca/news/the-lighthouse-orangeville-a-community-resource

THE GUIDING LIGHT FOR STUDENTS

- Students have a clearer understanding of
  - Course/lesson expectations
  - Assessment strategies and underlying motivation
  - How to gauge, reflect upon, self-direct learning (metacognition)
- Student motivation Increases
- Quality of student performance increases

Image: https://www.cdvs.ca/news/the-lighthouse-orangeville-a-community-resource

BACKWARDS DESIGN



Content

Skills,
Knowledge,
Attitudes

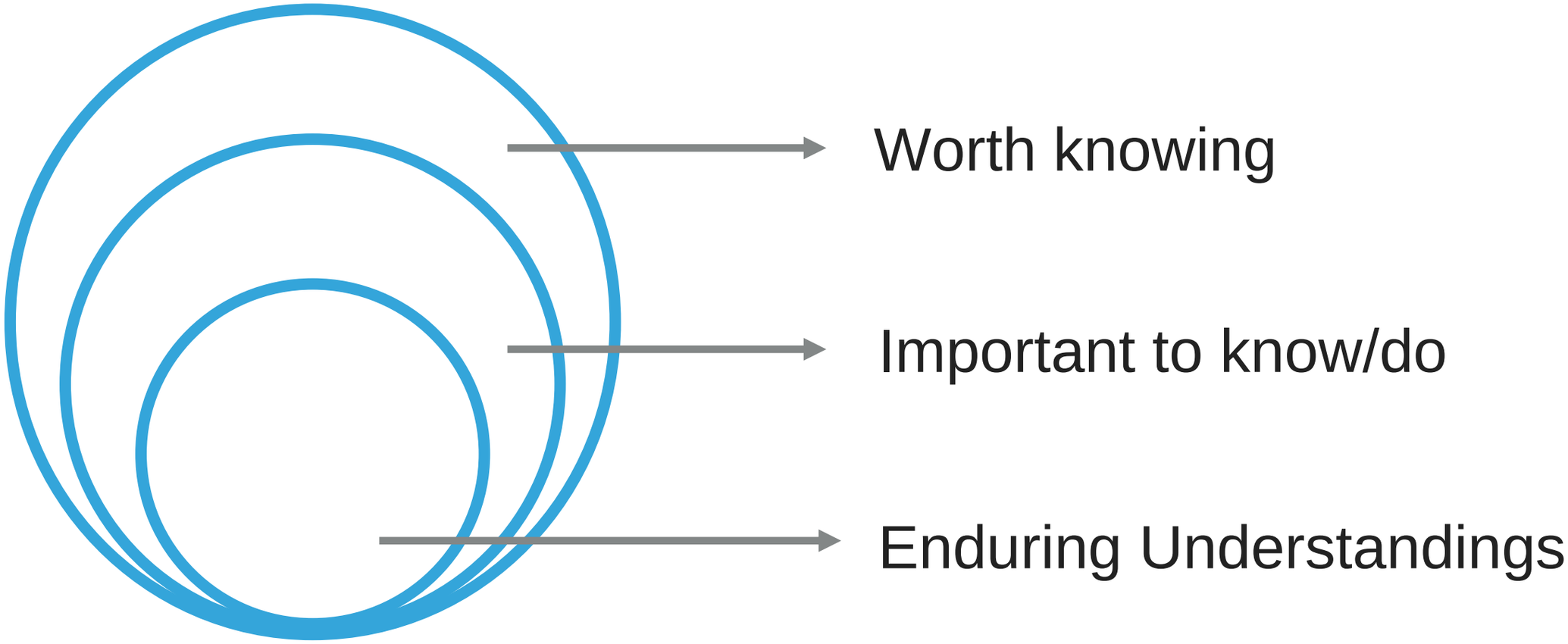
Course
Outcomes

Lesson
Outcomes

https://teachingcommons.stanford.edu/resources/course-preparation-resources/course-design-aids/designing-courses-backwards

BOPPS LESSON PLANNING TEMPLATE

- Bridge/hook
- [Learning] Outcomes
- Pre-assessment
- Participatory learning
- Post assessment
- Summary



What should students know/be able to do at the end of the lesson?

What skills/knowledge/competencies should they develop/apply/demonstrate during & after course?

Wiggins, G & McTighe, J., “Backward Design,” in *Understanding by Design*, 1998

SESSION LEARNING OUTCOMES

- ✓ Explain the difference between course objectives and outcomes
- ✓ Describe how outcomes function at the level of the course and lesson
- ✓ Discuss how outcomes are useful for students and instructors

- **Explain Bloom's Taxonomy of Learning and describe how it supports outcomes**
- Describe the steps for writing SMART outcomes
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BLOOM'S TAXONOMY OF LEARNING
(1956, REV. 2001)

Framework for categorizing educational goals

Classifies forms and levels of learning

THREE DOMAINS (KSA)

- Cognitive: skills, knowledge
  - Mental abilities
- Psychomotor: physical skills
  - Movement, coordination, manipulation, dexterity, grace, strength, speed
- Affective: attitudes
  - How we deal with emotional domain (feelings, values, appreciation, enthusiasms, motivations, attitudes)

Bloom's Taxonomy of Educational Objectives, Teaching and Educational Development Institute, The University of Queensland, 1996, https://kaneb.nd.edu/assets/137952/bloom.pdf, Accessed 27 August 2018

COGNITIVE DOMAIN (KNOWLEDGE)

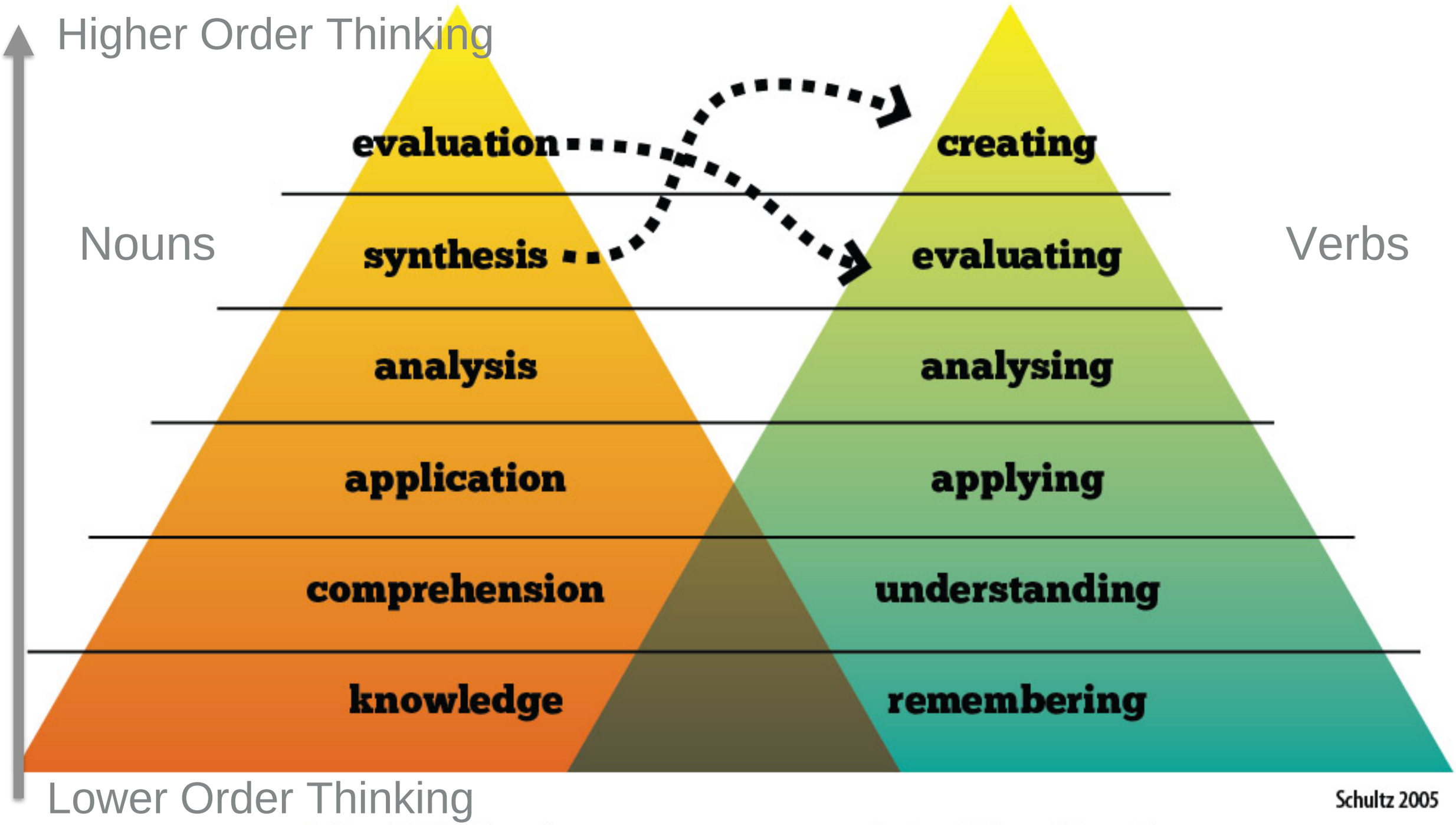


Image: http://blog.trainerswarehouse.com/blooms-taxonomy-one-step-at-a-time/, Accessed 27 August 2018

Bloom’s taxonomy of learning

Revised

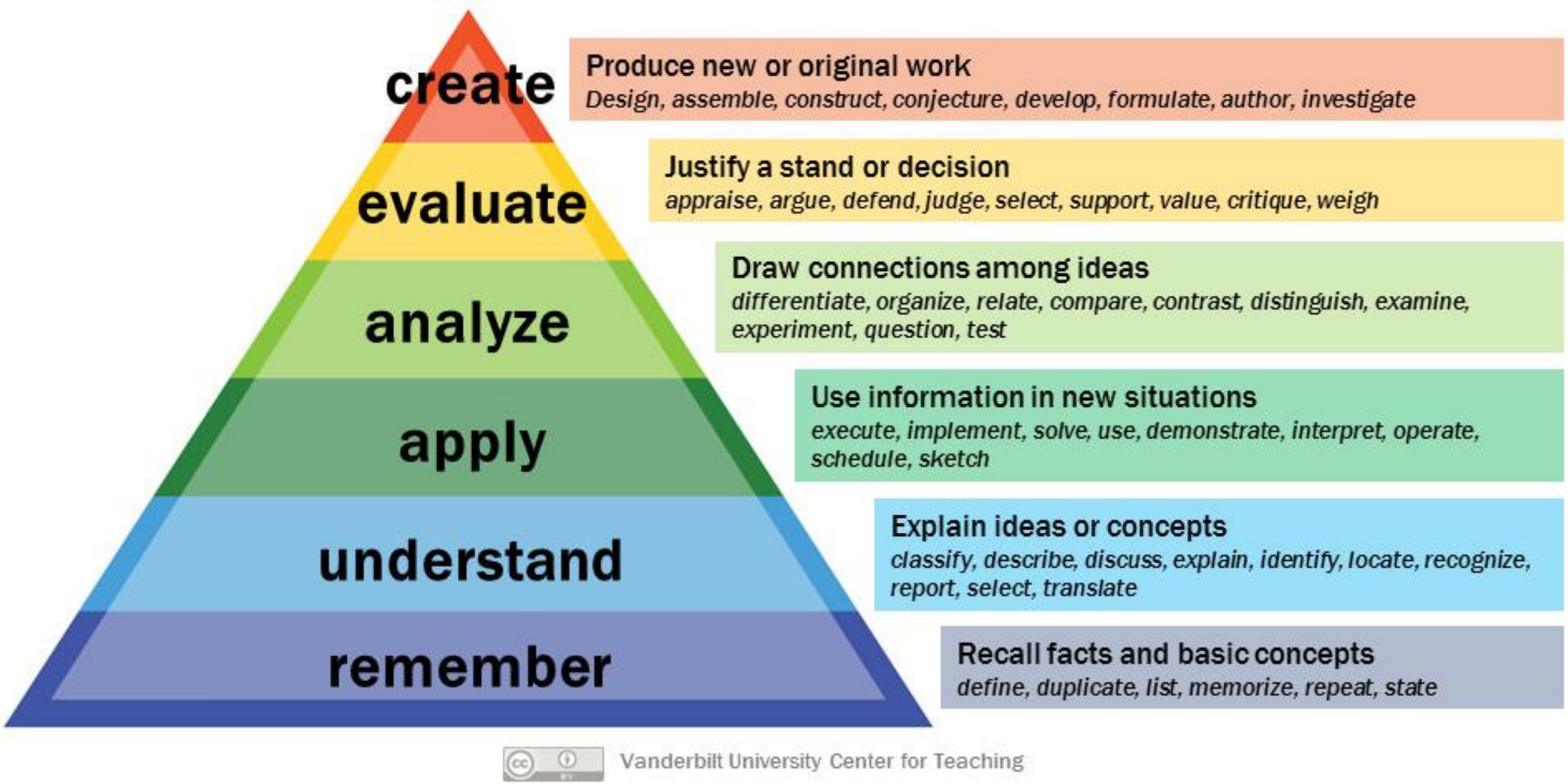
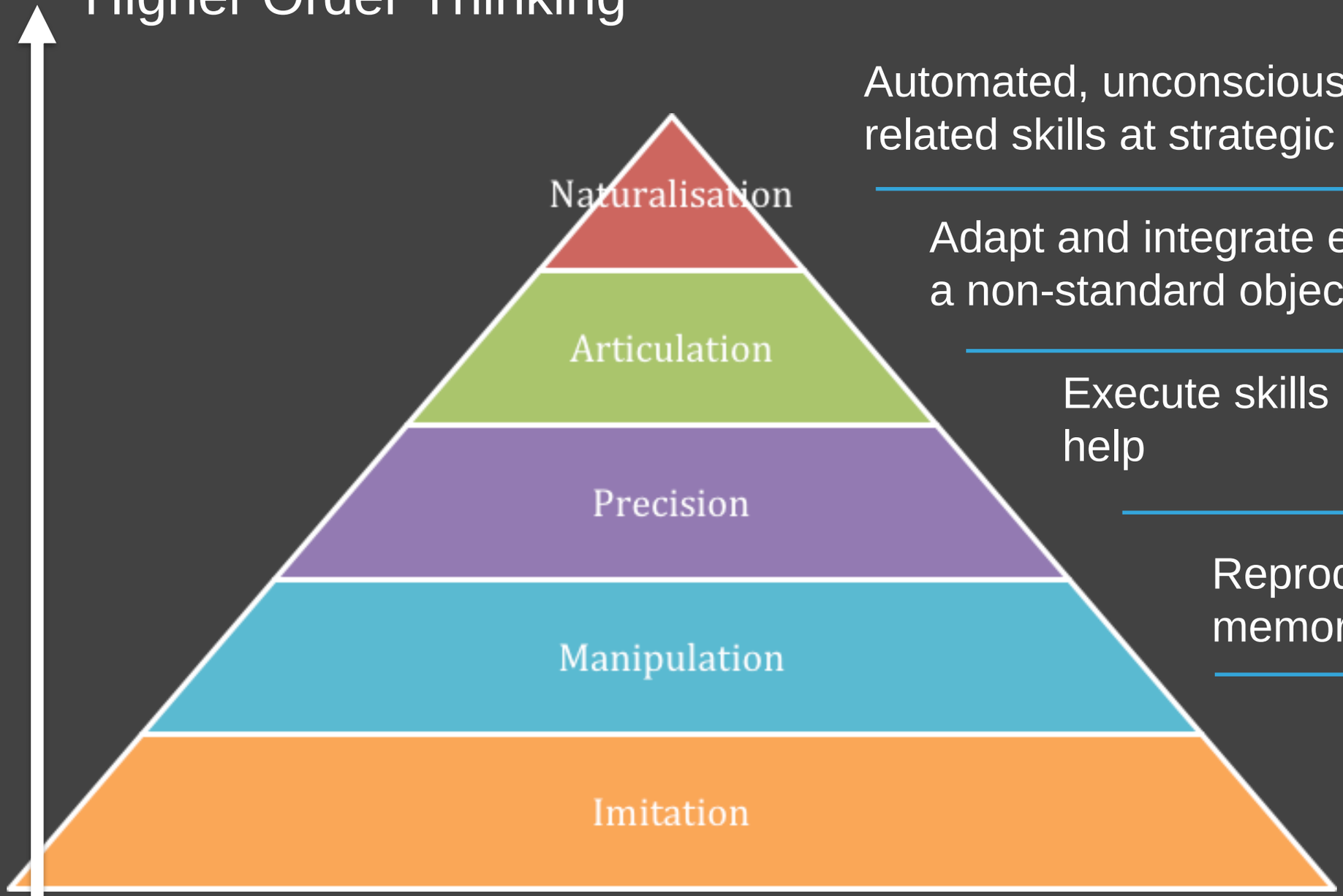


Image: https://www.flickr.com/photos/vandycft/29428436431

PSYCHOMOTOR DOMAIN (SKILLS)

Higher Order Thinking



Automated, unconscious mastery of activity and related skills at strategic level

Adapt and integrate expertise to satisfy a non-standard objective

Execute skills reliably independent of help

Reproduce from instruction or memory

Copy actions, observe and replicate

Lower Order Thinking

Bloom's Taxonomy of Educational Objectives, Teaching and Educational Development Institute, The University of Queensland, 1996, https://kaneb.nd.edu/assets/137952/bloom.pdf, Accessed 27 August 2018

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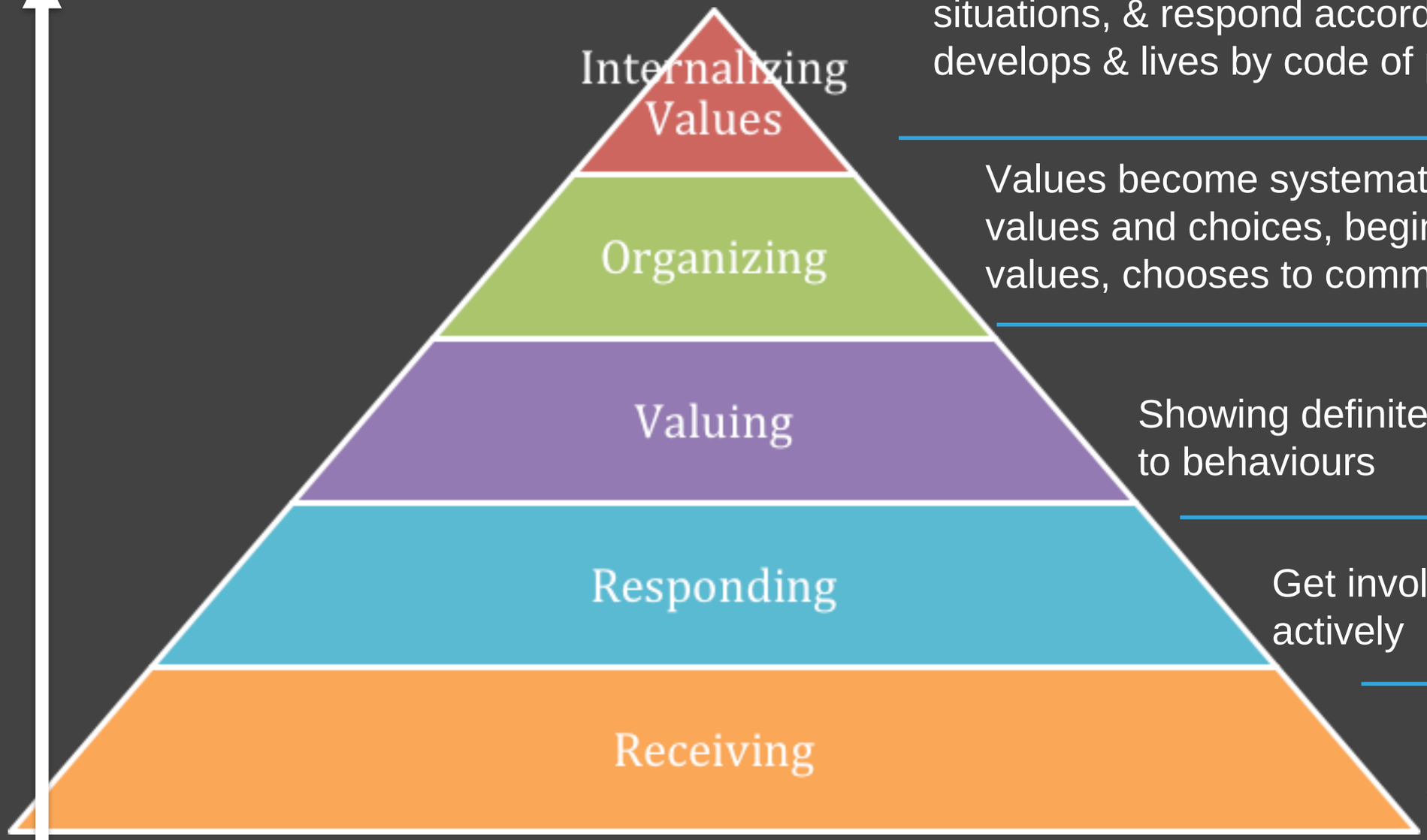
AFFECTIVE DOMAIN (ATTITUDES)

Higher Order Thinking



Acts consistent due to internal belief, can articulate a philosophy or world view, can break down complex situations, & respond accordingly based on values, develops & lives by code of personal behaviour

Values become systematic, can compare & contrast values and choices, begins to order & prioritize values, chooses to commit to certain values

Showing definite involvement /commitment to behaviours

Get involved in or participate actively

Open to experience/idea, willing to hear

Lower Order Thinking

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THE “HOW TO” OF OUTCOMES

- Consider your learners and the teaching context
- Focus on (measurable) student performance
- Keep one outcome (verb) for each statement
- Target specific levels and/or domains of Bloom’s Taxonomy
- Avoid verbs that represent actions/concepts that are difficult to measure or are vague

ALIGN outcomes to teaching strategy, content, and active learning activities, and assessment (formative and summative)

SMART OUTCOMES

Specific and student focused

Measurable in terms of student success

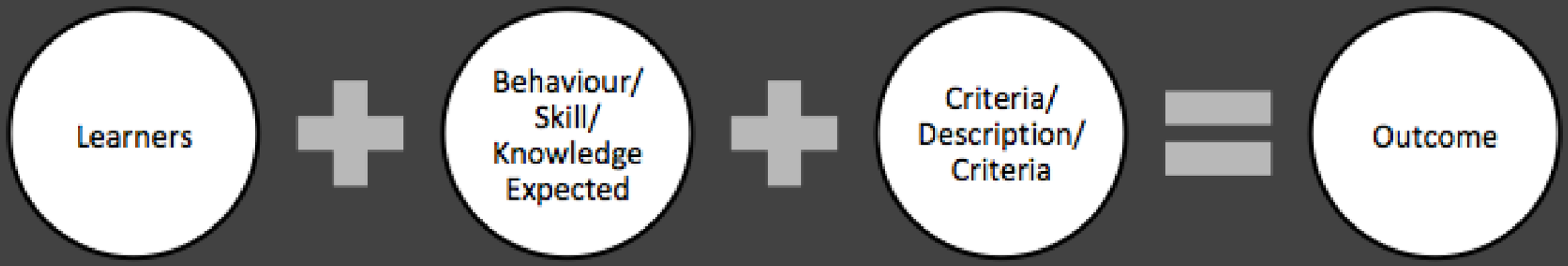
Attainable by students

Relevant to the focus of the course or lesson

Timeframe for achieving outcome is realistic

http://tlc.ucalgary.ca/sites/default/files/course_design_workshop_manual_2013_02_14.pdf

CLASSICAL SYMPHONY EXEMPLAR



2nd year music majors

Little/no experience with critical listening

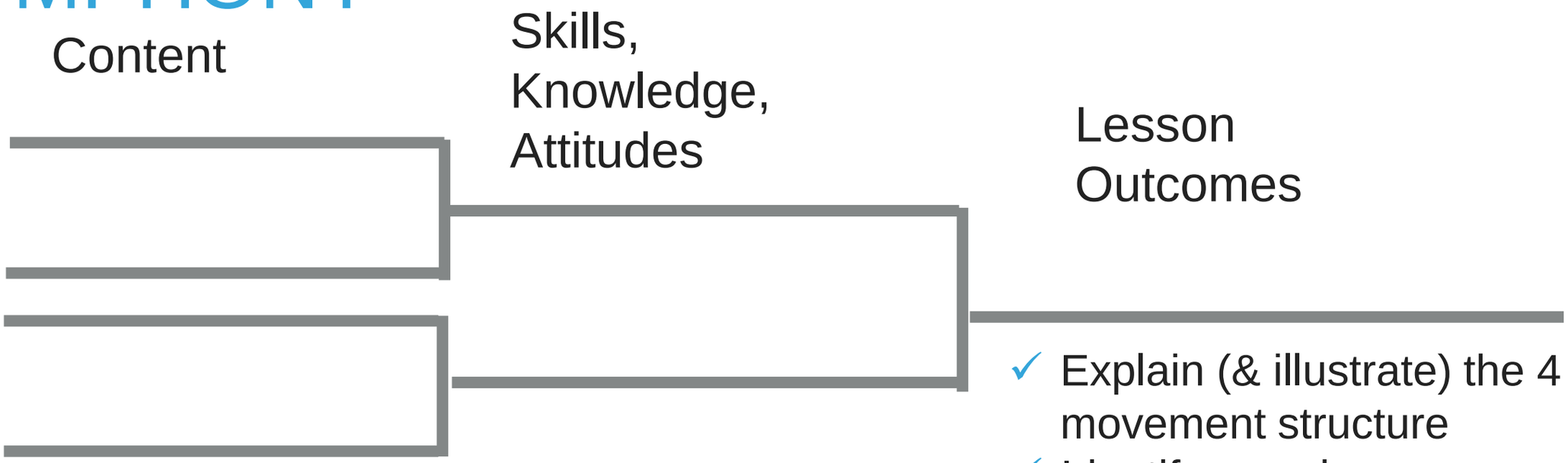
Required course

Differentiate

Stylistic differences between the symphonic style of Beethoven and Haydn

Lesson Outcome: By the end of lesson, students should be able to differentiate the symphonic styles of Beethoven and Haydn.

LESSON OUTCOMES EXEMPLAR: CLASSICAL SYMPHONY



- ✓ Classical Style
- ✓ Beethoven's 3rd Symphony
- ✓ Haydn's Symphony No. 104

- ✓ Identify
- ✓ Compare & contrast
- ✓ Differentiate
- ✓ Justify

- ✓ Explain (& illustrate) the 4 movement structure
- ✓ Identify symphony as a genre & movement number upon hearing
- ✓ Using Haydn & Beethoven as examples, compare & contrast the compositional approach to the symphony
- ✓ Differentiate between composers upon hearing
- ✓ Justify listening observations with evidence

https://teachingcommons.stanford.edu/resources/course-preparation-resources/course-design-aids/designing-courses-backwards

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YOUR TURN

In pairs

1. Evaluate whether each lesson outcome meets the SMART criteria and why/why not.
2. Choose ONE and improve it.

- By the end of the lesson, students will be introduced to the fundamental concepts of fluid dynamics. Objective not an outcome
- By the end of the lesson, students will appreciate the awesome power of nature. Not measurable
- By the end of the lesson, students will have a deeper appreciation of literature and literary movements in general. Not attainable or measurable
- By the end of the lesson, students will understand a range of art historical issues. Not measurable

Examples taken from: http://serc.carleton.edu/NAGTWorkshops/coursedesign/tutorial/goals_practice.html

SOME BETTER EXAMPLES

- Topic: Local Government
  - By the end of the lesson, students will be able to: 1) identify the components of local government, and 2) will be able to generate 4-6 sentences using local government facts and vocabulary.
- Topic: Patterns of Digestion
  - By the end of the lesson, students will: 1) know how to physically point out areas of the digestion track, and 2) recall specific facts about how the food we eat can turn into fuel for the body.
- Topic: Homeostasis
  - By the end of the lesson, students will be able: 1) explain what is meant by “homeostasis,” and 2) give 2 examples of how the systems of the body contribute to homeostasis.

Examples taken from:
https://www.thoughtco.com/lesson-plan-step-1-objectives-and-goals-2081856
https://studylib.net/doc/8669420/biology-103-lecture-objectives-unit-1-–-test-1-chapters-1

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BIKING THROUGH CAMPUS

Scenario: You are teaching a course for new students on how to bike through the UofA campus. Your objectives for the course include developing their understanding of **bike safety, maintenance** and **navigating the campus**. Students have basic riding skills, but have varying degrees of understanding in these topics.

CASE STUDY

BIKING THROUGH CAMPUS

In groups of 2 or 3, create **TWO** learning outcomes for a lesson plan in ONE of the content areas given below. Target specific levels and/or domains of Bloom's Taxonomy. Ensure your outcomes are SMART. Choose a representative to share your results.

- Safety
- Bike maintenance
- Navigating campus
- Biking etiquette

Formative Post-Assessment

WHAT ARE YOUR QUESTIONS?