Construction and Alignment:
Making the Most out of Your Course Syllabi

California State University, Long Beach

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Facilitator

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Assessment is….

1. A planning process for any learning experience at any institutional level

   - ✓ Given day's class
   - ✓ Course
   - ✓ Degree Program

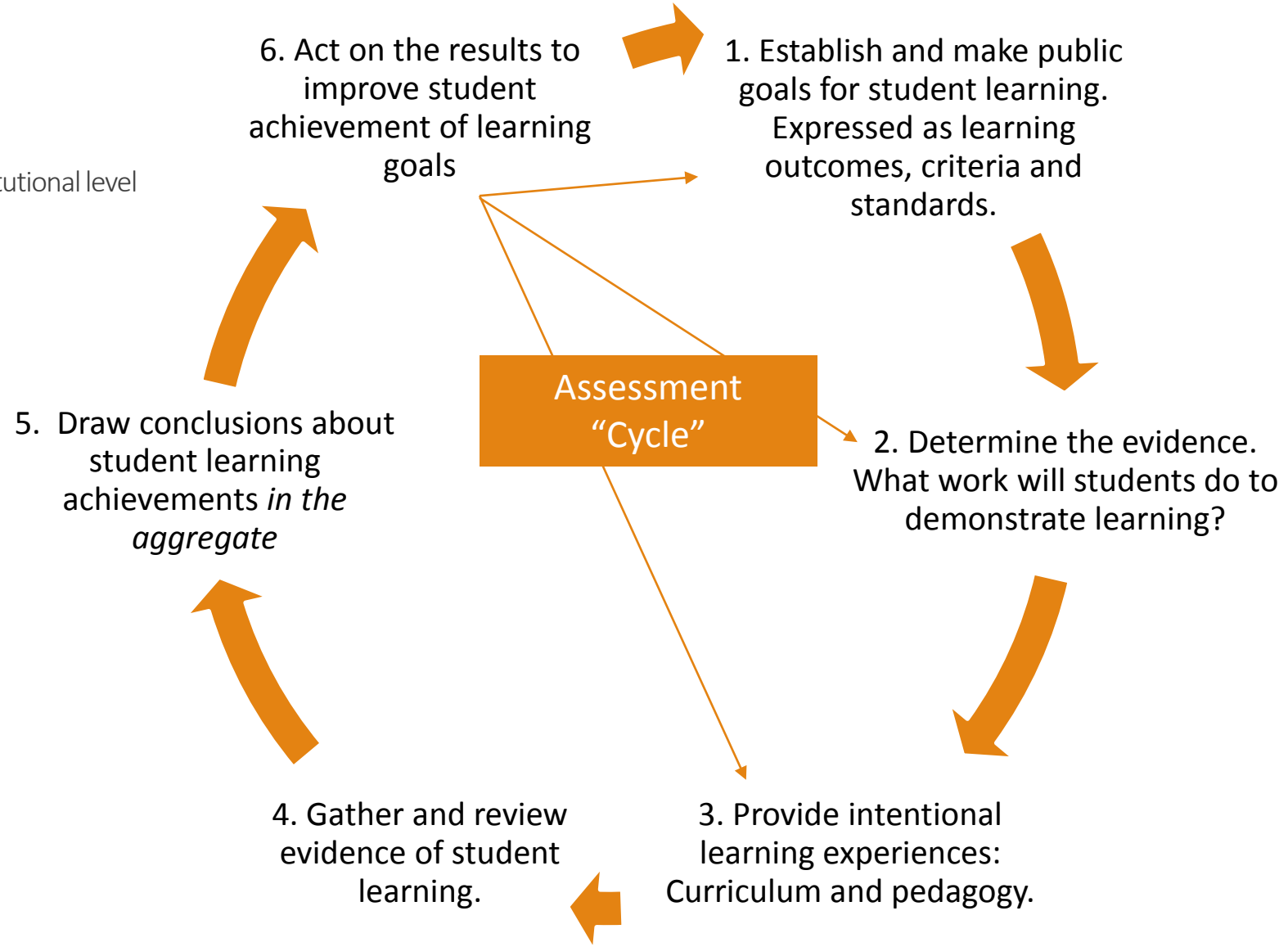
2. A heuristic for *intentionality* in teaching and learning

3. Instructional activities selected to

   - facilitate development of and
   - to reveal (to the teacher and the students)

   student learning in relation to learning goals.

4. A form or "action research" to advance student learning



Hybrid of Suskie (2009) , the CIRTL Teaching-as-Research (TAR) framework, and Backward Design (McTighe &Williams, 1998)

Laura E. Martin, 2015

Some Qualities of a Meaningful, Useful PLO

1. Written from perspective "Students will be (or are) able to…."
2. Includes an action verb describing the cognitive skills graduates will demonstrably possess. (See Iowa State's A Model of Learning Objectives)
3. Action verb represents a high order thinking skill, appropriate to a bachelor's degree holder in discipline.
4. Identifies the kind(s) of knowledge graduates will demonstrably possess. (See Iowa State's A Model of Learning Objectives)
5. Describes how students will demonstrate their learning/ points to sources of evidence of learning (i.e. is measurable).
6. Points to the kinds of learning experiences students need to develop the PLO.
7. Is understandable to students, although understanding may be expected to deepen with learning.

Assessment 101
Some Practice with Learning Outcomes and Language

At your tables, work on developing measurable learning outcomes.

1. As an instructor, what do you want to achieve in your course (what is your goal?)?

2. Given your goal, what kinds of things do you want your students to be able to do if they pass the class?

3. Using the Bloom's Taxonomy chart(s) in your handouts, locate some active verbs in each column that might correspond to your goals for student achievement.

4. Combine Points 1 – 3 and write one or two learning outcomes for this course. Work to avoid only factual outcomes ("list the kings and queens of England") and strive for a mixture of lower order and higher order skills.

5. Finally, what Domain(s) of Learning do these outcomes fall under? Explain.

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REVISED Bloom's Taxonomy Action Verbs

Definitions	I. Remembering	II. Understanding	III. Applying	IV. Analyzing	V. Evaluating	VI. Creating
Bloom's Definition	Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers.	Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas.	Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.	Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations.	Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria.	Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.
Verbs	• Choose • Define • Find • How • Label • List • Match • Name • Omit • Recall • Relate • Select • Show • Spell • Tell • What • When • Where • Which • Who • Why	• Classify • Compare • Contrast • Demonstrate • Explain • Extend • Illustrate • Infer • Interpret • Outline • Relate • Rephrase • Show • Summarize • Translate	• Apply • Build • Choose • Construct • Develop • Experiment with • Identify • Interview • Make use of • Model • Organize • Plan • Select • Solve • Utilize	• Analyze • Assume • Categorize • Classify • Compare • Conclusion • Contrast • Discover • Dissect • Distinguish • Divide • Examine • Function • Inference • Inspect • List • Motive • Relationships • Simplify • Survey • Take part in • Test for • Theme	• Agree • Appraise • Assess • Award • Choose • Compare • Conclude • Criteria • Criticize • Decide • Deduct • Defend • Determine • Disprove • Estimate • Evaluate • Explain • Importance • Influence • Interpret • Judge • Justify • Mark • Measure • Opinion • Perceive • Prioritize • Prove • Rate • Recommend • Rule on • Select • Support • Value	• Adapt • Build • Change • Choose • Combine • Compile • Compose • Construct • Create • Delete • Design • Develop • Discuss • Elaborate • Estimate • Formulate • Happen • Imagine • Improve • Invent • Make up • Maximize • Minimize • Modify • Original • Originate • Plan • Predict • Propose • Solution • Solve • Suppose • Test • Theory

Anderson, L. W., & Krathwohl, D. R. (2001). A taxonomy for learning, teaching, and assessing, Abridged Edition. Boston, MA: Allyn and Bacon.

A Model of Learning Objectives

Note: Objectives = Outcomes at some institutions

based on

A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives

Note: Objectives = Outcomes at some institutions

Among other modifications, Anderson and Krathwohl's (2001) revision of the original Bloom's taxonomy (Bloom & Krathwohl, 1956) redefines the cognitive domain as the intersection of the Cognitive Process Dimension and the Knowledge Dimension. This document offers a three-dimensional representation of the revised taxonomy of the cognitive domain.

Although the Cognitive Process and Knowledge dimensions are represented as hierarchical steps, the distinctions between categories are not always clear-cut. For example, all procedural knowledge is not necessarily more abstract than all conceptual knowledge; and an objective that involves analyzing or evaluating may require thinking skills that are no less complex than one that involves creating. It is generally understood, nonetheless, that lower order thinking skills are subsumed by, and provide the foundation for higher order thinking skills.

The Knowledge Dimension classifies four types of knowledge that learners may be expected to acquire or construct—ranging from concrete to abstract (Table 1).

Table 1. The Knowledge Dimension – major types and subtypes

concrete knowledge → abstract knowledge			
factual	**conceptual**	**procedural**	**metacognitive***
knowledge of terminology knowledge of specific details and elements	knowledge of classifications and categories knowledge of principles and generalizations knowledge of theories, models, and structures	knowledge of subject-specific skills and algorithms knowledge of subject-specific techniques and methods knowledge of criteria for determining when to use appropriate procedures	strategic knowledge knowledge about cognitive tasks, including appropriate contextual and conditional knowledge self-knowledge

(Table 1 adapted from Anderson and Krathwohl, 2001, p. 46.)

*Metacognitive knowledge is a special case. In this model, "metacognitive knowledge is knowledge of [one's own] cognition and about oneself in relation to various subject matters . . . " (Anderson and Krathwohl, 2001, p. 44).

Iowa State University
Center for Excellence in Learning and Teaching

This taxonomy provides a framework for determining and clarifying learning ***objectives***.
Learning ***activities*** often involve both lower order and higher order thinking skills as well as a mix of concrete and abstract knowledge.

The Cognitive Process Dimension represents a continuum of increasing cognitive complexity—from lower order thinking skills to higher order thinking skills. Anderson and Krathwohl (2001) identify nineteen specific cognitive processes that further clarify the scope of the six categories (Table 2).

Table 2. The Cognitive Processes dimension — categories & cognitive processes and alternative names

lower order thinking skills → higher order thinking skills

remember	understand	apply	analyze	evaluate	create
recognizing • identifying recalling • retrieving	interpreting • clarifying • paraphrasing • representing • translating exemplifying • illustrating • instantiating classifying • categorizing • subsuming summarizing • abstracting • generalizing inferring • concluding • extrapolating • interpolating • predicting comparing • contrasting • mapping • matching explaining • constructing models	executing • carrying out implementing • using	differentiating • discriminating • distinguishing • focusing • selecting organizing • finding coherence • integrating • outlining • parsing • structuring attributing • deconstructing	checking • coordinating • detecting • monitoring • testing critiquing • judging	generating • hypothesizing planning • designing producing • constructing

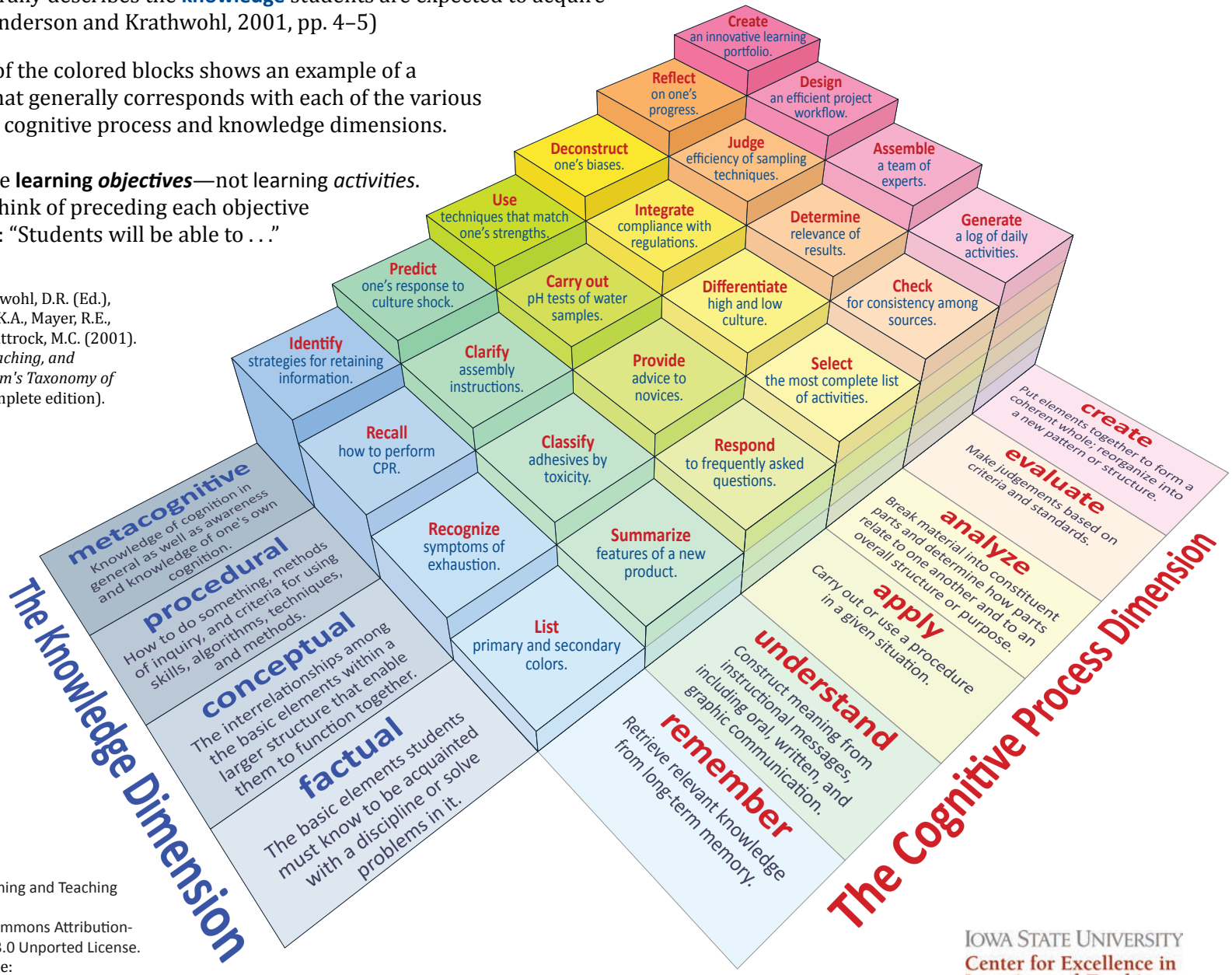
(Table 2 adapted from Anderson and Krathwohl, 2001, pp. 67–68.)

A statement of a **learning objective** contains a **verb** (an action) and an **object** (usually a noun). Note: Objectives = Outcomes at UCM

- The **verb** generally refers to [actions associated with] the intended **cognitive process**.
- The **object** generally describes the **knowledge** students are expected to acquire or construct. (Anderson and Krathwohl, 2001, pp. 4–5)

In this model, each of the colored blocks shows an example of a learning objective that generally corresponds with each of the various combinations of the cognitive process and knowledge dimensions.

Remember: these are **learning *objectives***—not learning *activities*. It may be useful to think of preceding each objective with something like: "Students will be able to . . ."



*Anderson, L.W. (Ed.), Krathwohl, D.R. (Ed.), Airasian, P.W., Cruikshank, K.A., Mayer, R.E., Pintrich, P.R., Raths, J., & Wittrock, M.C. (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's Taxonomy of Educational Objectives* (Complete edition). New York: Longman.

Model created by: Rex Heer
Iowa State University
Center for Excellence in Learning and Teaching
Updated January, 2012

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For additional resources, see:
www.celt.iastate.edu/teaching/RevisedBlooms1.html

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Program Review & Assessment
DIVISION OF ACADEMIC AFFAIRS
CALIFORNIA STATE UNIVERSITY, LONG BEACH

Institutional Learning Outcomes

Institutional Learning Outcomes highlight the knowledge, skills and abilities all students are expected to have upon graduating from CSULB.

Graduates will be:

- Well-prepared with communication, numeracy and critical thinking skills to successfully join the workforce of California and the world or to pursue advanced study;
- Critically and ethically engaged in global and local issues;
- Knowledgeable and respectful of the diversity of individuals, groups, and cultures;
- Accomplished at integrating the skills of a liberal education with disciplinary or professional competency;
- Skilled in collaborative problem-solving, research, and creative activity.

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Assessment 101
Alignment, Step-by-Step

You have developed your outcomes, but now what do you do with them? For this section, we will work on aligning your outcomes.

1. Using your results from the Learning Outcomes section, find some overlap between your Learning Outcomes, your program's learning outcomes and your institution's outcomes (listed in your booklet).

2. Is this a GE Course? Does it align with a Core Competency?

3. Class alignment – Take your Learning Outcome and think about possible assessments you can provide in the class. Examples include, but are not limited to: in-class examinations, group presentations, online discussions, specific types of writing, poster presentation, portfolio, etc.

LEARNING OUTCOME	EVALUATION(S) PLANNED

NB: we will return to program-level assessment of learning outcomes in a later section.

4. How might these exercises build partnerships across divisions? In other words, how might your learning outcomes and assignments coordinate with co-curricular activities your students will experience? If you could, what kinds of intersections might you develop?

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Student Learning Outcomes Relationships
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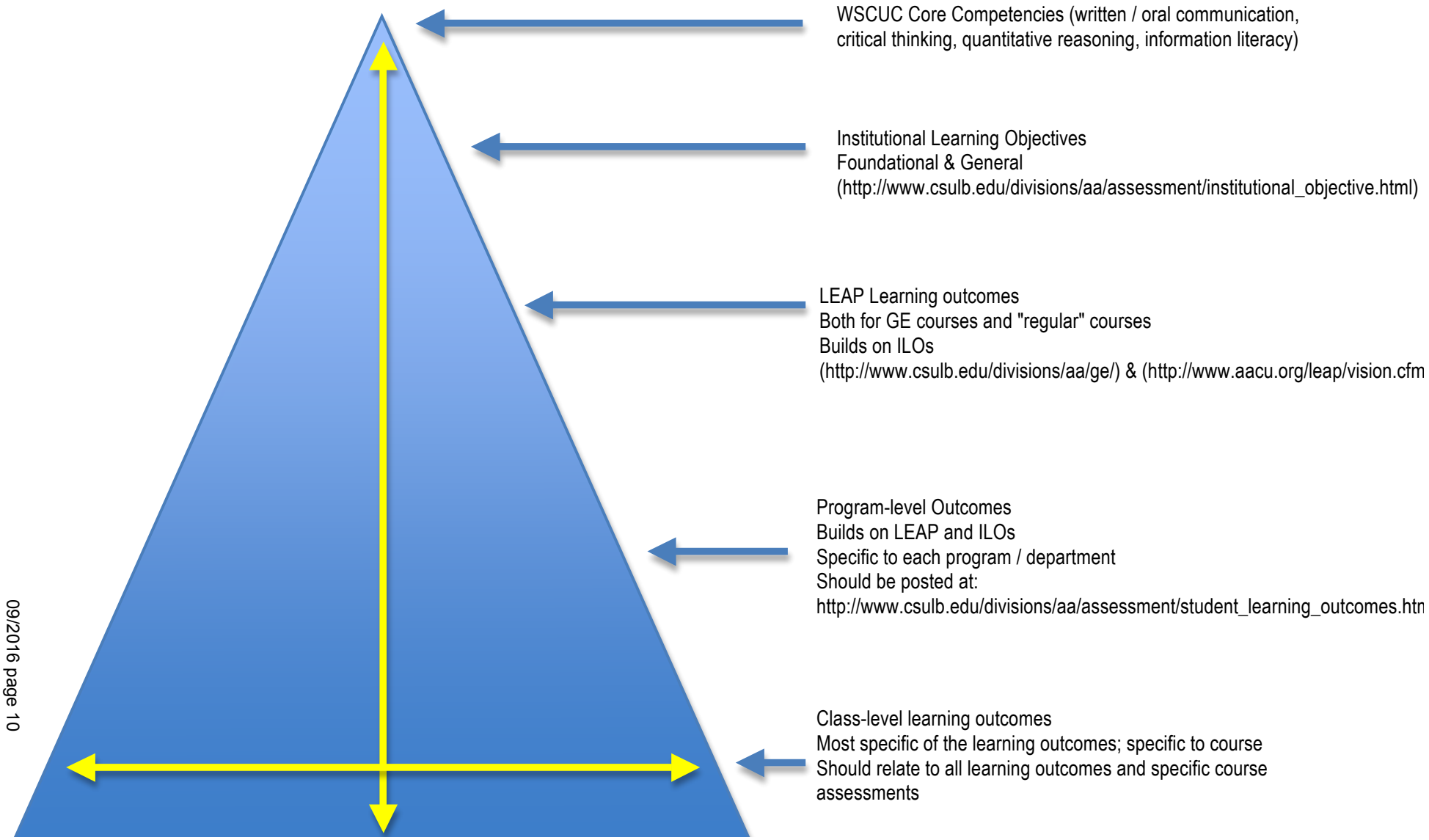
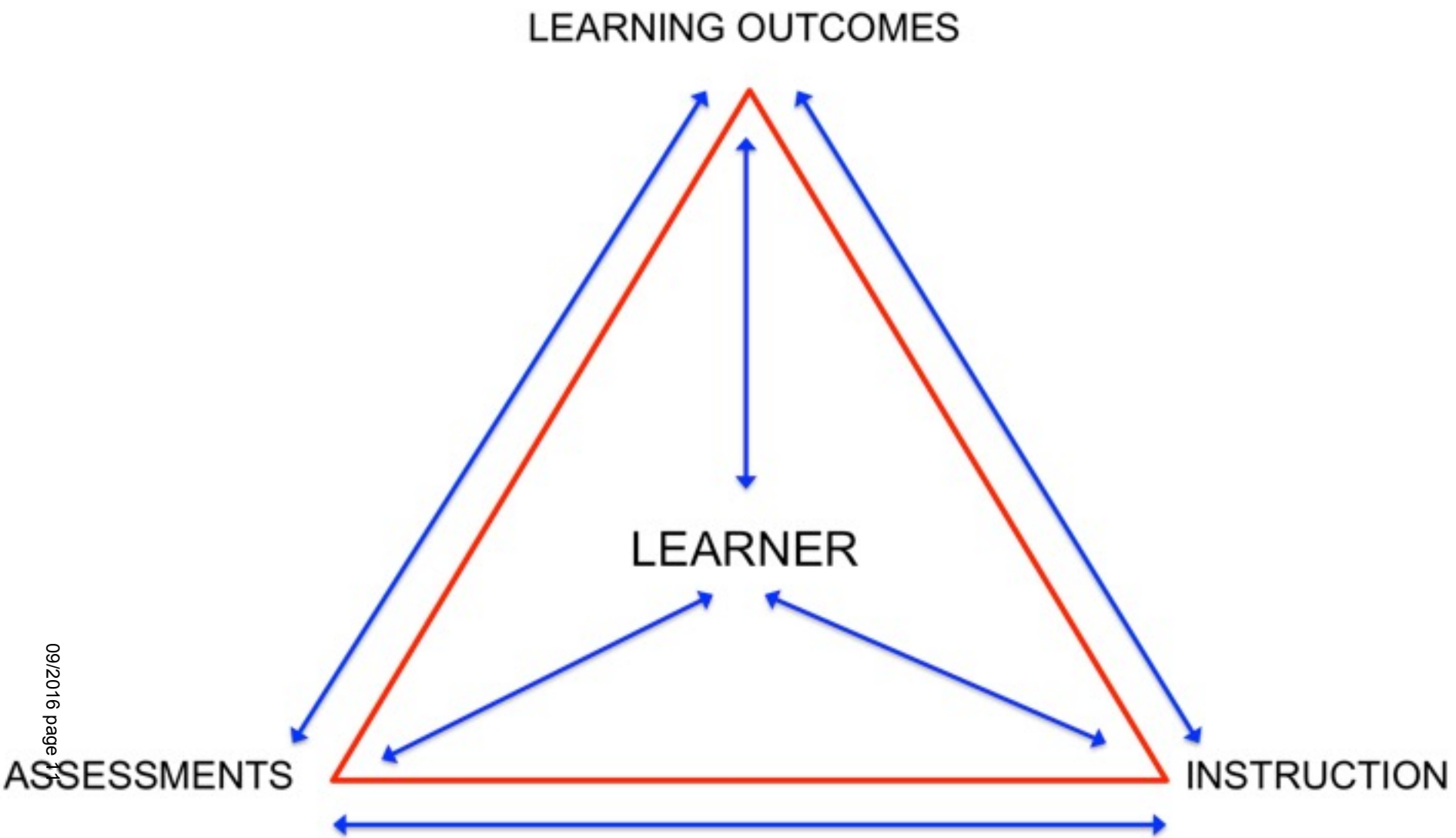
University Mission Statement:
California State University Long Beach is a diverse, student-centered, globally-engaged public university committed to providing highly-valued undergraduate and graduate educational opportunities through superior teaching, research, creative activity and service for the people of California and the world.





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Academic Affairs/Student Affairs
Learning Outcomes Alignment

Academic Affairs

Student Affairs

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Use the chart below to map your own courses in relation to your Program Learning Outcomes (PLOs). Where do your courses introduce, reinforce, or expect mastery of the PLOs?

Courses	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5

Curriculum Maps

Mary Allen[1]
Emeritus, California State University Center for Teaching and Learning

The Curriculum Map

- Focuses faculty on curriculum cohesion
- Guides course planning
- Allows faculty to identify potential sources of embedded assessment evidence
- Allows faculty to identify where they might close the loop

Let's analyze some curriculum map patterns

I = Introduce: learning outcomes are introduced at a basic level.
D = Develop: students are given opportunities to deepen their knowledge of and practice the outcomes with feedback to increase their sophistication with intended skills and knowledge.
M = Mastery: students demonstrate knowledge and skills at a level appropriate for a degree holder/graduate.
A = Assessed: evidence of student learning gathered for the purposes of program assessment.

Curriculum Map A

Courses	Program Outcome 1	Program Outcome 2	Program Outcome 3	Program Outcome 4	Program Outcome 5
100	I, D, M				
101	I, D, M, A				
102		I, D, M, A			
103			I, D, M		
203			I, D, M, A		
230A				I, D, M	
230B				I, D, M, A	
280					I, D, M
290					I, D, M, A

Curriculum Map B: GE Curriculum Map

GE requirement	Program Outcome 1	Program Outcome 2	Program Outcome 3	Program Outcome 4	Program Outcome 5
100	I	I	I	I	I
101	D	D	D	D	D
102	D	D	D	D	D
103	D	D	D	D	D
200	D	D	D	D	D
229	D	D	D	D	D
230	D	D	D	D	D
280	D	D	D	D	D
290	M, A	M, A	M, A	M, A	M, A

[1] With minor modifications by Laura E. Martin, *University of California, Merced*

Thinnk about a program you contribute to. Does it have:

- Coherence: It's not a collection of unrelated courses.
- Synthesizing experiences for students: Systematic opportunities for students to consolidate learning.
- Ongoing practice of learned skills: To avoid deterioration of prior learning.
- Systematically created opportunities to develop increasing sophistication and apply what is learned.

Scoring Schemas for Curriculum Mapping at the Program Level[1]

Scoring schemas conceptualize how the curriculum of a program addresses the intended learning outcomes. They do so by describing the opportunities students have to meet, develop (through practice with feedback), and demonstrate their learning at a level appropriate for a graduate or exit from a program.

Example scoring schemas follow. In all cases, levels of development are described with reference to the abilities a student should demonstrably possess upon successfully completing the program.

A. *Mary Allen, emeritus, California State University Center for Teaching and Learning*

Introduce (I)	Learning outcomes are introduced at a basic level.
Develop (D)	Students are given opportunities to deepen their knowledge of and practice the outcomes with feedback to increase their sophistication with intended skills and knowledge.
Mastery (M)	Students demonstrate knowledge and skills at a level appropriate for a degree holder/graduate.

This schema can be useful where didactic learning is separate from experiential learning.

Introduce (I)	Learning outcomes are introduced at a basic level.
Enhance (E)	Learning is increasingly advanced beyond the basic level using didactic methods.
Practice (P)	Practice with real or simulated clients; feedback given to develop practical skills.
Mastery (M)	Students demonstrate knowledge and skills at a level appropriate for a degree holder/graduate.

B. *University of Hawaii, Manoa, Assessment Office* < manoa.hawaii.edu/assessment/howto/mapping.htm>

Introduced (I)	Learning outcomes are introduced.
Reinforced (R)	Learning outcomes are reinforced with the opportunity to practice.
Mastery (M)	Mastery at the senior or exit level.
Assessed (A)	Assessment evidence collected.

Also from the University of Hawaii, a scoring schema that illustrates the degree of emphasis placed on an intended learning outcome in a course.

1	Some emphasis
2	Moderate emphasis
3	Significant emphasis

[1] Adapted from document by Fred Trapp, Cambridge West Partnership, LLC. Fredtrapp@gmail.com
Laura E. Martin, University of California, Merced

C. Norfolk State University – as described in Cuevas, N.M., Matveev, A. G. and K.O. Miller. Mapping General Education Outcomes in the Major: Intentionality and Transparency. AACU Peer Review. Winter 2010. Pp. 10-15.

Introduced (I)	Students are not expected to be familiar with the content or skill at a collegiate level. Instruction and learning activities focus on basic knowledge, skills and/or competencies and entry level complexity. Only one (or a few) aspect of a complex program outcome is addressed in a given course.
Emphasized (E)	Students are expected to possess a basic level of knowledge and familiarity with the content or skills at the collegiate level. Instruction and learning activities concentrate on enhancing and strengthening knowledge, skills, and expanding complexity. Several aspects of the outcome are addressed in a given course, but these aspects are treated separately.
Reinforced (R)	Students are expected to possess a strong foundation in the knowledge, skill or competency at the collegiate level. Instruction and learning activities continue to build upon previous competencies with increased complexity. All components of the outcome are addressed in the integrative contexts.
Advanced (A)	Students are expected to possess an advanced level of knowledge, skill or competency at the collegiate level. Instruction and learning activities focus on the use of the content or skills in multiple contexts and at multiple levels of complexity.

D. Bellevue Community College, Washington

0	Course does not include instruction on the outcome
1	Includes some instruction or practice and assessment of the outcome
2	Addresses the outcome as a focus in 20% or more of the course.
3	Addresses the outcome as a focus in 33% or more of the course.

E. Maui Community College – A focus on what students do in relation to the outcome, as opposed to instruction.

0	No emphasis. The student does not address this learning outcome.
1	Minor emphasis. The student is provided an opportunity to use, reinforce and apply this learning outcome, but is not evaluated on this learning outcome.
2	Moderate emphasis. The student uses, reinforces, and applies this learning outcome, and is evaluated on this learning outcome, but it is not the focus of the class.
3	Major emphasis. The student is actively involved (uses, reinforces, applies and is evaluated) in the learning outcome. The learning outcome is the focus of the class.