

Top Down & Bottom Up

Fully Integrating Teaching, Learning and Assessment Practices



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Anticipation Guide

Directions: Agree, Disagree, or Edit.

1. Learning results from taking notes and discussing concepts.
2. Assessment focuses on determining what students know and can do.
3. Active learning focuses on problem solving and is used mostly in advanced classes.

Learning First



processing

Cognitively

Behaviorally

What we process
we learn.

Affectively

Socially

6 Principles for Developing Deep & Flexible Learning

1. Learning through **practice at retrieval**
2. Learning through **varied tasks** and **purposes**
3. Learning at the **principle** level
4. Learning **awareness** and **control** (metacognition)
5. Learning embedded in **prior knowledge & experience**
6. Learning in response to developmental **feedback**

(Engle, 2006; Halpern & Hakel, 2003; Mariano, Doolittle, & Hicks, 2009; Wagner, 2006)

Program and Course Design and Assessment

Part 1: Top Down



curriculum map

clarity →

Program Assessment (Biology Major)

(Academic) Program Goals: Graduates have
 (1) Knowledge of biological concepts, processes, systems, and techniques; and,
 (2) Knowledge and skills sufficient to enter graduate school or biology profession.

Student Learning Outcomes: Students can
 (1) *Describe* fundamental biological processes and systems;
 (2) *Demonstrate* proper laboratory practice, use of equipment, and techniques;
 (3) *Perform* appropriate analysis of data and draw valid conclusions from the data;
 (4) *Locate, use, and evaluate* scientific literature, including journals; and,
 (5) *Communicate* findings of research in appropriate formats.

Curriculum Map

Course	O1	O2	O3	O4	O5
105/L	I	I	I	I	
205/L	I	I		I	
215	R		I		I
324/L	F/A	F/A		I	I
435	M/A		R	R	R
445/L		M/A	R	R	R
455			M/A	M/A	M/A

I=introduced; R=reinforced; M=mastered; A=assessed

105/L

205/L

215

324/L

435

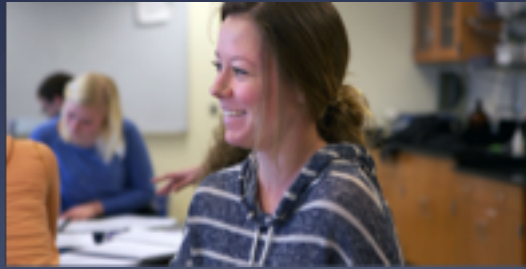
445/L

455

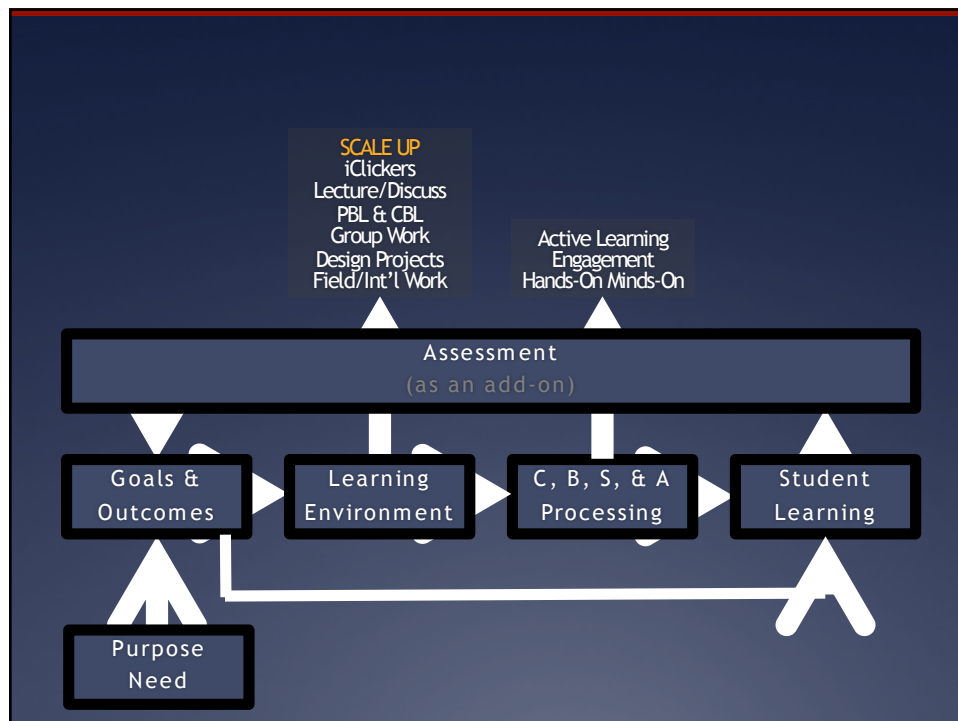
www.manoa.hawaii.edu/assessment/

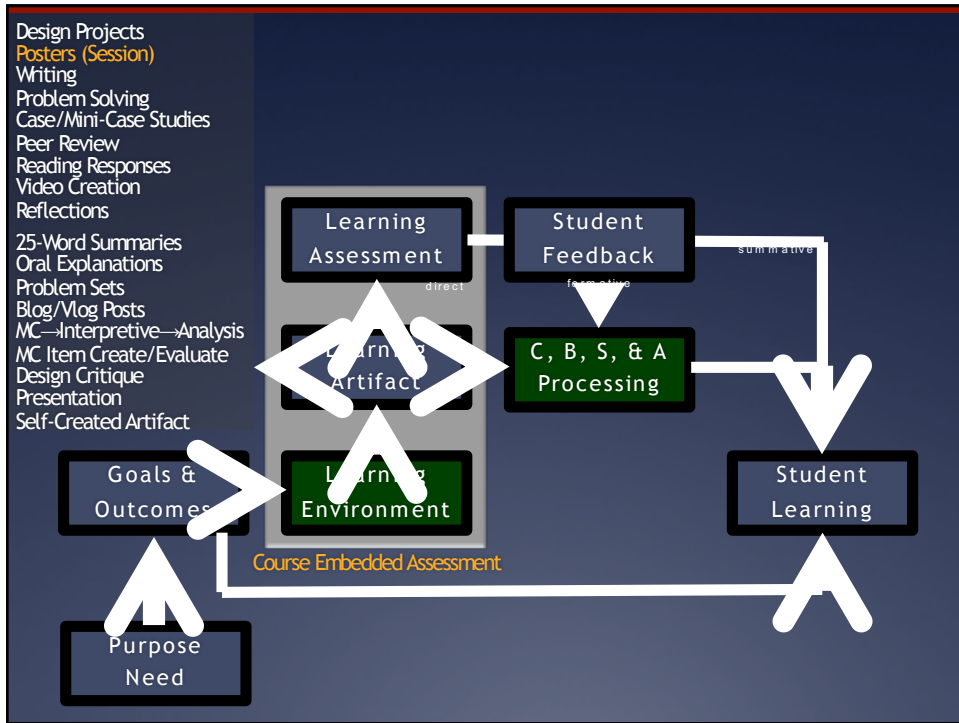
Program and Course Design and Assessment

Part 2: Bottom Up



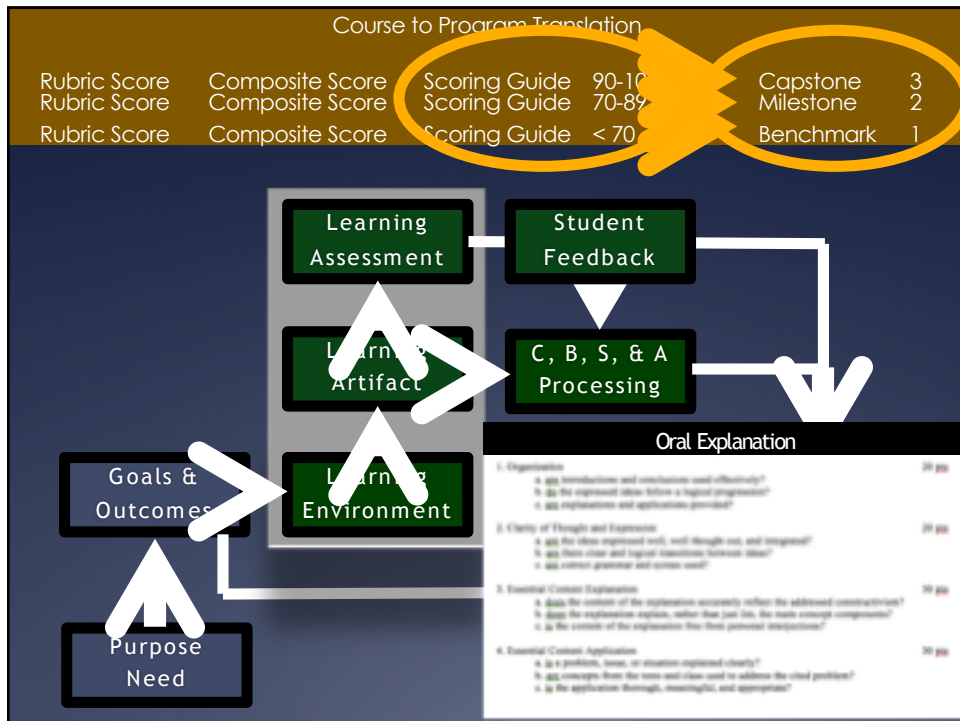
learning artifacts

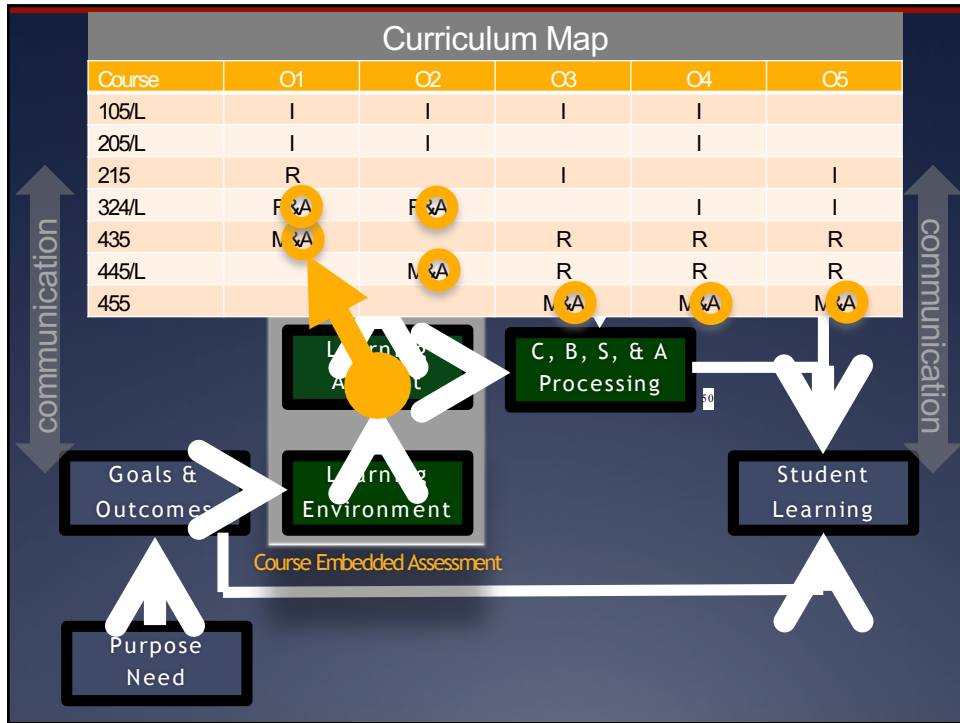




Why Assess?

- Course Assessment for Program Assessment
- Course Assessment for Course Grade
- Course Assessment for Course Modification





Why Assess?

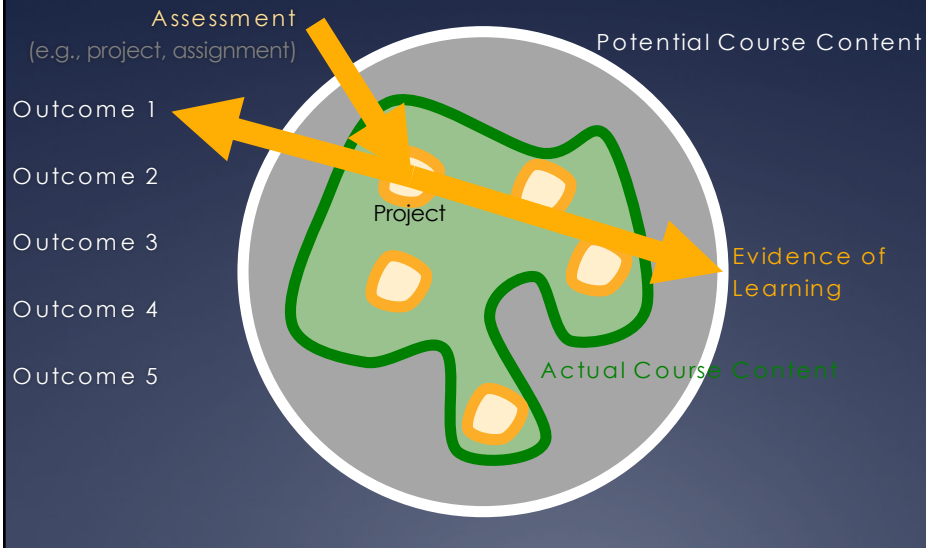
- Course Assessment for Program Assessment
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Guiding Grade Principles

1. Grades should be a natural extension of good instructional design, including course embedded assessments.
2. Grades should be based on student academic achievement and performance.
3. Grades should be based on a series of assessments that provide equity in the opportunity to demonstrate learning.
4. Grade determination should be clearly explained on the course syllabus.

Assessing is Sampling



Assessing on a Syllabus

Learning Goals and Outcomes:

L.O.1 Students will be able to understand the concepts of sociology, anthropology, sociology, and methodology as related to the study of education.

L.O.2 Students will be able to explain the essential concepts and terms associated with sociology, anthropology, sociology, and methodology as they relate to education.

L.O.3 Students will be able to apply the essential concepts and terms associated with sociology, anthropology, sociology, and methodology to educational issues.

L.O.4 Students will be able to demonstrate a critical perspective on the social, historical, and investigation of knowledge (sociology) within both education and society.

L.O.5 Students will understand the basic similarities and differences between cultural, social, and cognitive ~~constructivism~~ **W3 logs**.

L.O.6 Students will be able to differentiate the core similarities and differences in sociology, anthropology, sociology, and methodology within various types of constructivism.

L.O.7 Students will be able to apply the core similarities and differences in sociology, anthropology, sociology, and methodology within various types of constructivism to educational issues.

L.O.8 Students will appreciate the need to align constructivism philosophy, theory, and pedagogy in order to create a rationale for the ~~use~~ **use** of constructivism in education.

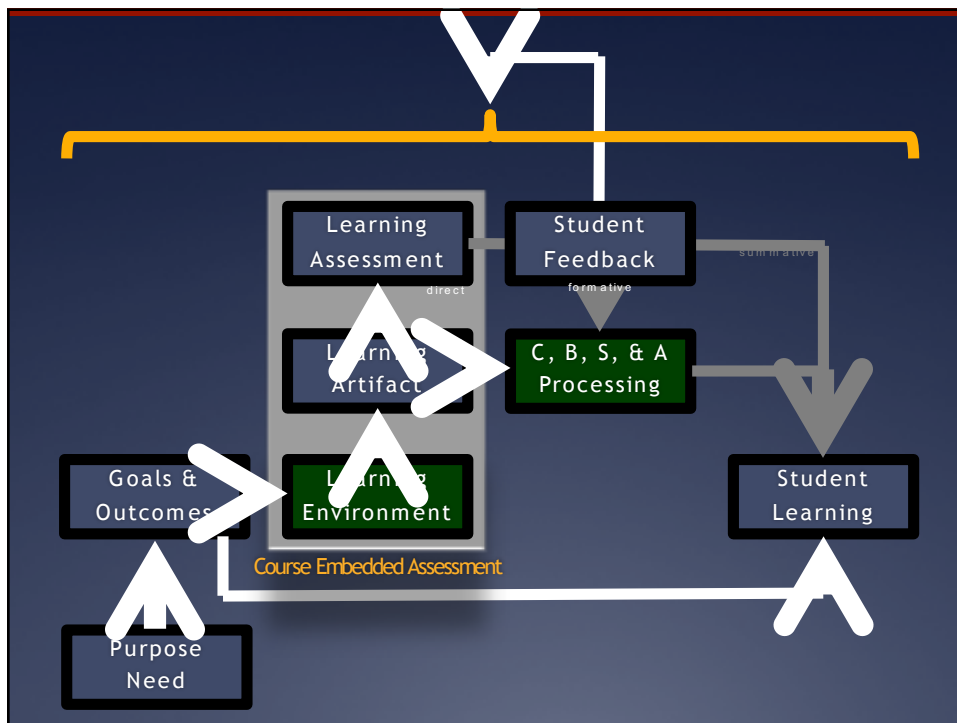
L.O.9 Students will be able to integrate philosophy, theory, and pedagogy in the creation of novel constructivist educational methods.

Grading	Goal Explanations	W3 pts (L.O. 1-8)
	1. Constructivism: General	170 pts
	2. Radical Constructivism	170 pts
	3. Social Constructivism	170 pts
	4. Social-Neurological Constructivism	170 pts
	5. Symbolic Interactionism	170 pts
	20-Word Summaries (20 x 50 points)	1000 pts (L.O. 1,2,3,4,5)
	Daily Class Evaluations (14 x 10 points)	140 pts = 10 pts
* 10 additional points for completing all 10 evaluations		

A	2000-1800	100-90%	B+	1700-1500	80-80%	C+	1300-1100	70-70%	D+	900-700
A-	1875-1800	90-80%	B	1575-1400	80-60%	C	1175-1000	70-70%	D	775-600

Why Assess?

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Course Revision

- Are there prerequisite knowledge & skills missing?
- Are the course goals & outcomes appropriate?
- Are the course activities & instruction appropriate?
- Are the course assignments appropriate?

Active Learning Strategies



processing

Oral Explanations

Fostering Deep & Flexible Learning

- Opportunity for students to (a) **communicate** their understanding of various ideas, concepts, and procedures, and (b) **apply** this understanding to a problem or situation of choice.
- Explain key ideas, concepts, and procedures from class in a **10-min video** (no notes, no post-processing)

example →

Oral Explanations

Fostering Deep & Flexible Learning

1. Learning through **practice at retrieval**
2. Learning through **varied tasks & purposes**
3. Learning at the principle level
4. Learning **awareness & control (metacognition)**
5. Learning embedded in **prior knowledge & experience**
6. Learning in response to developmental feedback

using video →

Poster Session

Fostering Deep & Flexible Learning

- Opportunity to **select, research, organize, summarize,** and **communicate** specific energy alternatives.
- Produce a **conference-style poster** and present the poster (discussion) in a public poster session.

Poster Sessions

Fostering Deep & Flexible Learning

1. Learning through **practice at retrieval**
2. Learning through **varied tasks & varied purposes**
3. Learning at the **principle level**
4. Learning awareness & control (metacognition)
5. Learning embedded in **prior knowledge & experience**
6. Learning in response to developmental feedback

25-Word Summaries

Fostering Deep & Flexible Learning

- Opportunity to engage in critical thinking and extract the **essential meaning** from a reading, lecture, video, movie, activity, or experience
- Summarize the meaning **clearly and concisely**, based on student's understanding, in 25 words or less.

25-Word Summaries

1. Learning through **practice at retrieval**
2. Learning through varied tasks & purposes
3. Learning at the **principle level**
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6. Learning in response to **developmental feedback**