

Student Learning Outcomes and Assessment in the Classroom

A Work Book

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Overview

This workbook is designed to help you use Student Learning Outcomes (SLOs) in the classroom. It is created for Cabrillo faculty who are writing course outlines, including the new section on SLOs, and for faculty who are interested in learning how to use SLOs effectively as part of your course.

The work book has four main sections:

1. Writing Student Learning Outcomes
2. Aligning Classroom Activities with SLOs
3. Assessing Student Mastery of SLOs

Faculty who are writing course outlines may only need to read the first section. However, it may be helpful to read the following sections to understand how organizing a course around its SLOs will improve the teaching and learning experience. This may influence the language used for other sections of the course outline as well.

General Information on Student Learning Outcomes

In the new Accreditation Standards, a Student Learning Outcome (SLO) describes the:

- knowledge
- skills
- abilities
- attitudes

that students have attained by the end of any set of college experiences – classes, occupational programs, degrees and certificates and even encounters with Student Services or the Library. The stress is on what students can **DO** with what they have learned, resulting in some sort of product that can be evaluated.

Faculty must articulate student learning outcomes for each **course**, each **occupational program** and each **degree** and **certificate** that the school offers. Then, they must design assessments or evaluations that provide students with an opportunity to demonstrate what they have learned. Evaluating those assessments gives information to both the student and to the faculty member about how successful the learning experience has been.

In the classroom, the new Accreditation Standards require that SLO's become an integral part of every syllabus. SLO's should also act as a guide for classroom activities and direct classroom assessments or evaluations.

Theory

This approach to teaching believes that “covering” material during a course does not necessarily **guarantee** that students learn it. The instructor has delivered the course, but how do we know if the students have truly absorbed the material, or better yet, can apply it? The new Accreditation Standards state that success and retention are no longer considered an accurate way of answering that question. Success is determined by students emerging from courses with integrated, higher learning skills that they can **demonstrate** to others. Those demonstrations are the proof that they have truly learned.

Another keystone of the theory is the belief that students perform better when they know exactly what is expected of them, including what they will be required to do and how it will be evaluated. What defines an A, B or C paper or project should be public knowledge. This concept of **transparency** is key to using SLO's successfully in the classroom.

The final key concept is **practice**. Before being evaluated on an SLO, students should have the opportunity to practice the skill or tasks that compose it.

Practical Experience

Feeling bewildered by all this? Confused? Skeptical? You're in luck! Many of your fellow Cabrillo faculty have actually had some practical experience with this approach to teaching through the Learner Outcomes Summer Institute. Most scoffed in the beginning, but found that this teaching model was useful and that it worked. Their experience shapes the materials you'll find in this workbook.

Beginning in 1999, Cabrillo began exploring the use of SLOs in the classroom through the Institute. The sixty faculty trained by the institute discovered that this "new" approach to learning was actually something they had been doing all along, but with a few new wrinkles. Every instructor possessed well-defined goals and grading criteria, but many had not put them in writing or taken the step to share them with students. Most Institute faculty found that using SLOs did not necessarily require that they change their approach to teaching, but asked instead that they articulate the one they were already using

Faculty also found that using this approach resulted in a more stream-lined and effective course. Once activities were integrated with outcomes and their assessments, the course became more focused and exciting.

Finally, faculty found that the teaching model did not improve their success and retention rates, the old methods of measuring learning. But successful students seemed to be learning more in depth. Why? If true success is measured by what students can **do** with the material they are learning, rather than what the teacher covers, then the focus shifts to the students. Cabrillo faculty found that students, as always, varied in their willingness and ability to participate in their classroom experiences. However, greatly increased communication resulted from both the key concepts of transparency and practice. Students argued less about their grades because they were aware of the criteria that formed them, and they had a better idea of how to improve. Grading was more consistent and, in some cases, more rigorous.

Part I: Writing Student Learning Outcomes

SLOs versus Course Objectives

Student Learning Outcomes for the classroom describe the knowledge, skills, abilities or attitudes that a student can **demonstrate** by the end of your course.

- Don't think about content or coverage - consider what students should be able to DO with what they've learned by the end of the semester.
- How will students demonstrate this?
- What can they produce to show faculty that they have learned to apply their new knowledge?

When trying to define Student Learning Outcomes for a course, think of the big picture. SLOs:

- Describe the broadest goals for the class, ones that require **higher-level** thinking abilities.
- Require students to **synthesize** many discreet skills or areas of content.
- Ask them to then **produce** something - papers, projects, portfolios, demonstrations, performances, art works, exams etc. – that **applies** what they have learned.
- Require faculty to **evaluate** or **assess** the product to measure a student's achievement or mastery of the outcomes.

Course objectives are on smaller scale, describing small, discreet skills or "nuts and bolts" that require basic thinking skills. They are subsets of outcomes. Think of objectives as the building blocks used to produce whatever is used to demonstrate mastery of an outcome. Objectives can be practiced and assessed individually, but are usually only a portion of an overall project or application.

Objectives	Outcomes
Objectives describe skills, tools or content that a student will master by the end of course.	Outcomes describe over-arching goals that a student will be able to demonstrate by the end of a course.
Objectives require the use of basic thinking skills such as knowledge, comprehension and application.	Outcomes require the use of higher level thinking skills such as analysis, synthesis and evaluation.
Objectives do not necessarily result in a product. Most often, objectives are synthesized or combined to produce something that measures an outcome.	Outcomes result in a product that can be measured and assessed.

Are you still confused? Look at the following three pages for examples of the difference between outcomes and objectives describing the knowledge, skills and abilities, and attitudes in a course. Note that there is a **flow**, a line of progression from the most basic objectives to the most sophisticated outcomes. The charts are adapted from the work of Janet Fulks and Kate Pluta from Bakersfield College. To help you write a course outline, they have noted the words from Bloom's Taxonomy that can be used to describe either an objective or outcome.

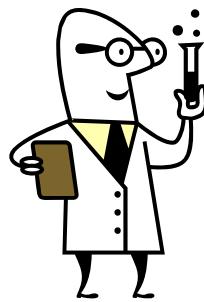


Knowledge

Objectives
Basic
Knowledge

Outcomes
More Sophisticated
Higher Level Thinking

Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
Student remembers or recognizes information or specifics as communicated with little personal assimilation.	Student grasps the meaning behind the information and interprets, translates, or comprehends the information.	Student uses information to relate and apply it to a new situation with minimal instructor input.	Student discriminates, organizes, and scrutinizes assumptions in an attempt to identify evidence for a conclusion.	Student creatively applies knowledge and analysis to integrate concepts or construct an overall theory.	Student judges or evaluates information based upon standards and criteria, values and opinions.
Cite Label List Enumerate Identify Imitate Match Name Quote Recall Reproduce State Write	Convert Define Describe Discuss Estimate Explain Generalize Identify Illustrate Locate Paraphrase Restate Summarize	Apply Chart Compute Demonstrate Determine Dramatize Establish Make Manipulate Prepare Project Solve Use	Analyze Compare Contrast Correlate Diagram Dissect Differentiate Distinguish Infer Investigate Limit Outline Separate	Assemble Create Construct Design Develop Formulate Generate Hypothesize Initiate Invent Modify Reframe Synthesize	Access Appraise Conclude Critique Decide Defend Diagnose Evaluate Judge Justify Rank Recommend Support



Skills and Abilities

Objectives

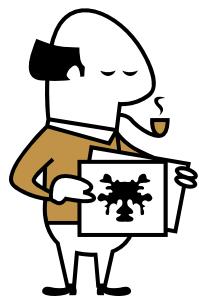
Basic Knowledge
Basic Skills
Level

Outcomes

More Sophisticated Skills
Higher Level Abilities
Critical Understanding of Performance



Observe	Model	Recognize Standards	Correct	Apply	Coach
Students translate sensory input into physical tasks or activities.	Students are able to replicate a fundamental skill or task.	Students recognize standards or criteria important to perform a skill or task correctly.	Students use standards to evaluate their own performances and make corrections.	Students apply this skill to real life situations.	Students are able to instruct or train others to perform this skill in other situations.
Hear Identify Observe See Smell Taste Touch Watch *Usually no outcomes or objectives written at this level.	Attempt Copy Follow Imitate Mimic Model Reenact Repeat Reproduce Show Try	Check Detect Discriminate Differentiate Distinguish Notice Perceive Recognize Select	Adapt Adjust Alter Change Correct Customize Develop Improve Manipulate Modify Practice Revise	Build Compose Construct Create Design Originate Produce	Demonstrate Exhibit Illustrate Instruct Teach Train



Attitudes

Objectives

Elementary Values and Behaviors
Inherited Value System
Egocentric View

Outcomes

More Highly Developed Attitudes
Well Thought-out Value System
Higher Level Abilities to Identify and
Articulate Others' Values

Receiving	Responding	Valuing	Organizing	Characterizing
Students become aware of an attitude, behavior, or value.	Students exhibit a reaction or change as a result of exposure to an attitude, behavior, or value.	Students recognize value and display this through involvement or commitment.	Students determine a new value or behavior as important or a priority.	Students integrate consistent behavior as a naturalized value in spite of discomfort or cost. The value is recognized as a part of the person's character.
Accept Attend Describe Explain Locate Observe Realize Receive Recognize	Behave Comply Cooperate Discuss Examine Follow Model Present Respond Show Studies	Accept Adapt Balance Choose Differentiate Defend Influence Prefer Recognize Seek Value	Adapt Adjust Alter Change Customize Develop Improve Manipulate Modify Practice Revise	Authenticate Characterize Defend Display Embody Habituate Internalize Produce Represent Validate Verify

Sample Student Learning Outcomes

Here are sample outcomes developed by Cabrillo faculty for course outlines. Note the verbs used and how they reflect higher level thinking skills, thus making them SLOs rather than objectives.

CEM 151 Construction Fundamentals: Principles and Practices

1. **Construct** a building applying the skills and knowledge obtained in this class.

ANTHRO 13 Forensic Anthropology

1. Using the basic principles of forensic anthropology, **analyze** skeletonized human remains to determine sex, age at death, height and genetic ancestry.

ATH 15HH Preseason Intercollegiate Water Polo - Men

1. **Analyze and customize** principles of cardiovascular fitness, muscular strength, endurance, and flexibility to water polo, and **apply** them to prevent injury.

DANCE 58 Street Dance and Hip Hop

1. **Perform**, with an increasing degree of proficiency, simple Hip Hop movements, **demonstrating** increasing control of skills pertaining to memorization, physical safety, body awareness, alignment, and aesthetic valuing.

CIS 103 Technical Support and Trouble Shooting

1. **Analyze** symptoms of host configuration errors.
1. **Solve** novel hardware and software problems.
2. **Create** technical documentation for user training.

CABT 131 Microsoft Word

1. **Analyze** communication requirements and **produce** professional-quality business documents, including letters, memoranda, and multi-page reports, using intermediate and advanced features of Microsoft Word.

JOUR 53 – Newspaper Production and Copy Editing

Construct visually attractive and readable newspaper pages by:

1. Using knowledge of effective design to fit graphical and text elements on newspaper pages and resolve problems with space constraints
2. Critiquing newspaper pages for design principles and design quality

Theatre Art (a series of courses)

TA 7 – Intro to Acting

Select, analyze, and perform selections from dramatic texts **utilizing** the performance skills of memorization, vocal projection, spatial awareness, stage directions and physical expression.

10A – Beginning Acting

Select, analyze, and perform selections from dramatic texts **demonstrating increasing control** over the skills of memorization, vocal projection, spatial awareness, stage directions and physical expression.

10B – Intermediate Acting

Select, analyze, and perform selections from dramatic texts **demonstrating consistent control** and use of the performance consistent skills of memorization, vocal projection, spatial awareness, stage directions and physical expression.

10C – Advanced Acting

Select, analyze, and perform selections from dramatic texts **demonstrating a mastery** of the performance skills of memorization, vocal projection, spatial awareness, stage directions and physical expression.

English Composition series

255 – Basic Writing

1. **Write** paragraphs and short essays **demonstrating** basic sentence-level competency and culminating in a portfolio.
2. **Comment** on ideas and writing strategies in reading assignments.

100- Elements of Writing

1. **Write** essays **demonstrating** sustained clarity of intention, awareness of audience, and various writing techniques.
2. **Articulate** responses to readings in various genres.

1A – College Composition

1. **Write essays**, including research-based writing, **demonstrating** academic rhetorical strategies and documentation.
2. **Analyze** and evaluate assigned and researched texts.

1B – Composition and Literature

1. **Write literary analysis**, interpretation, and research-based essays.
2. **Demonstrate** close readings of literary texts for analysis and interpretation.

2 – Critical Thinking

1. **Write evidence-based essays demonstrating** logical reasoning and argumentative skills.
2. **Evaluate** logical reasoning and argument in assigned and researched texts.

Some Dos and Don'ts:

1. Don't use the words "understand" - go for higher level thinking skills.
2. Don't use the phrase "students will." Avoid any pronouns like "them" or "their."
3. Do distinguish the difference between an A and B courses of the same number.
4. Keep the number of outcomes short – no more than four or five at most except if the outcomes of your courses are dictated by the requirements of outside accrediting bodies, like in nursing or dental hygiene). Use the outcomes to describe the **major** skills or knowledge students will take away from the course and what they will **produce** to show you that they have mastered those skills.

Guide to Writing SLOs

Beginning is often the most difficult step. Remember that you have been doing this all along. Now is your chance to put what you know intuitively as a professional into words. Use the Worksheet below and:

- 1) In one sentence, describe one **major** piece of knowledge, skill, ability or attitude that a student will have gained by the end of your class. Describe what students will **do** -- not content, activities or hours.
- 2) Use action verbs. See the previous pages for examples.
- 3) Write it in language that a student will understand.
- 4) Make sure that the outcome is something that can be assessed or tested.
- 5) Hint: Sometimes it's easier to start backwards by thinking about the major assessments you use in the course. These would be the products or demonstrations of your outcomes. Make a list of your major assignments for this course. Then try to describe in one sentence what the students are being asked to demonstrate in those assignment.
- 6) A word of warning: Be careful when describing attitudes in a learning outcome. They are hard to assess. Ask yourself if the attitude is crucial to success in your course. If a student doesn't have a certain attitude, but possesses the knowledge and skills being taught, is that satisfactory? There were unresolved ethical and pedagogical issues that arose for Cabrillo faculty at the Summer Institutes when we discussed assessing students about attitudes (See Institute Toolkit for a more developed discussion – link).

Writing Student Learning Outcomes Worksheet

Course Name and Number _____

Outcome 1 sentence that describes a major piece of knowledge, skill, ability or attitude that students can demonstrate by the end of the course	Assessment Major Assignment, Project or test used to demonstrate or apply outcome

Outcome 1 sentence that describes a major piece of knowledge, skill, ability or attitude that students can demonstrate by the end of the course	Assessment Major Assignment, Project or test used to demonstrate or apply outcome

Checklist for Writing Student Learning Outcomes

Now that you've written your SLOs, it's best to show them to other faculty in both your discipline and outside it to see if what you've written is understandable and concise. Use the following checklist:

1. Have you used action verbs in describing your SLOs?
2. Is it written as an outcome rather than objective?
 - Language indicates the BIG PICTURE rather than nuts and bolts
 - Describes what students can DO
 - Asks students to apply what they've learned by producing something
 - Addresses student competency rather than content coverage
3. Is the SLO appropriate for the course?
 - Represents a fundamental result of the course
 - Aligns with other courses in a sequence, if applicable
 - Represents collegiate level work

Revised Student Learning Outcomes Worksheet

Use the chart below to revise any of the SLOs you created earlier.

Course Name and Number _____

Outcome 1 sentence that describes a major piece of knowledge, skill, ability or attitude that students can demonstrate by the end of the course	Assessment Major Assignment, Project or test used to demonstrate or apply outcome

Outcome 1 sentence that describes a major piece of knowledge, skill, ability or attitude that students can demonstrate by the end of the course	Assessment Major Assignment, Project or test used to demonstrate or apply outcome

Part II: Aligning Course Activities with Student Learning Outcomes

Overview

Now that you've defined your SLOs for a class, it's time to look at what actually goes on in your classroom. Your SLOs have determined the **destination** of your course; they describe where the student will arrive by the end of the semester. This portion of the workbook helps you **plan the route** they will take to get there. It focuses on three aspects of classroom planning:

- Aligning Activities with Outcomes
- Working with Different Learning Styles
- Using Learner-centered Teaching Techniques

Cabrillo faculty have found that the methods described here are key factors in making SLOs a success in the classroom. These methods have helped them to focus and stream-line their courses, teach to different learning styles and make sure that student learning is at the center of the class. After reading this section, you may want to take a look at the Learner Outcomes Institute Handbook and Toolkit for a detailed description of these techniques and how they are applied by different faculty ([link](#)). Two other good resources are:

Effective Grading: A Tool for Learning and Assessment by Barbara Walvoord and Virginia Anderson

Classroom Assessment Techniques by T. Angelo and K. Cross.

Both books include a bevy of information about the hard research which confirms the experience of Cabrillo faculty – these techniques work!

Aligning Activities with Outcomes

Step One: Skeleton Building

The first step in aligning your class activities with outcomes is to look at the scope of the entire semester. Now that you've articulated your outcomes or ultimate goals, you can turn your attention to the following questions:

- What are the major assignments that measure your outcomes?
- Where do they come during the semester?
- How do you build toward them?
- What specific class activities and homework assignments help students to successfully complete your major assignments?

Use **Course Alignment Worksheet I** to plot where the major assignments that measure your outcomes are placed during the semester. Think of this as the skeleton of your class. At this point, **write down only where the major assignments come in the time frame of the semester.**

As you work, remember that you are focusing on what students will DO, not necessarily what must be covered. Doing presupposes knowing, so of course time must be spent helping students to assimilate new knowledge. But using this approach, the organizing principle of your class is based on what students actually do and how they apply or demonstrate that knowledge, ultimately leading to mastery of the course outcomes. Start your planning with your major assignments.

Course Alignment Worksheet I

Course	
Outcome 1. 2. 3. 4. 5.	Assignment that measures it
Week 1. 2. 3. 4. 5. 6. 7. 8.	Week 9. 10. 11. 12. 13. 14. 15 (Finals)

Skeleton Checklist

Look again at your course skeleton:

- Is what you've planned **feasible** for both you and your students in terms of workload and grading? How many major assignments do you have? Will students have enough time to produce them? Will you have enough time to grade them?
- Do your major assignments match your outcomes? Do they provide students with an opportunity to demonstrate their mastery of the course outcomes?
- Though it is difficult, check once again to make sure that the skeleton you've created is focused on the assignments, rather than the content covered.

Step Two: Assignment Evaluation

The next step is to carefully consider how your major assignments help students to demonstrate the skills or outcomes you are seeking. It helps if you take the time to articulate and define the skills that each major assignment demands. It is important to ask:

- Do my assignments reflect the kind of learning I most desire and the kind that matches my outcomes? What are the precise skills that students will need to learn to complete these assignments?
- Do my assignments require that student demonstrate the kinds of skills I am actually grading?

This step asks you to analyze your assignments to make sure they are in alignment with your outcomes. Fill out the **Assignment Evaluation Worksheet** for each of your major assignments in your class. Each time, you will be making a list of what students need to learn for that particular assignment. Cabrillo faculty have found it illuminating to examine papers or projects to define what precisely they were hoping the assignment would demonstrate. This work also helped them to develop clearer grading criteria for the assignment, but that comes later! For now, use the worksheets to analyze the skills student will need to learn for each of your major assignments.

Assignment Evaluation Worksheet

Course	
Assignment (Describe briefly)	
SLOs Assignment Addresses (list)	
Major Skills Required (Be specific! What do students need to learn to complete this assignment?)	

Step Three: Assignment Skills to Class Activities To Outcomes

The final step is to go back to your course skeleton and plot out how you will use class time, home work assignments, readings and other activities to teach students the skills your assignment requires and to allow them to practice them before the assignment is graded.

This concept of “practice” is one of the key principles to using SLOs successfully. This teaching model believes strongly that students must practice the skills they are being evaluated on before that evaluation occurs. Again, the emphasis is on what they can do with what they are learning rather than the knowledge itself. Giving them the base knowledge or exposure to the ideas and content of the course without allowing them time to do something with it before they are evaluated on it will not lead to successful mastery of your course outcomes.

Use **Course Alignment Worksheet II** to describe the skills students need to learn in each week of the course to be able to complete your major assignments. Next to those skills, list the activities, exercises, homework assignments, readings, exercises etc. that will allow the students to learn the content the skill requires and to practice it.

Be brave! Be willing to let go of favorite class activities or readings that don't actually contribute to the skills required and ultimately to the class outcomes. Be creative! Allow yourself to invent others that focus on the skills needed. You may find that certain activities actually contribute to mastery of your outcomes, though you weren't aware of it. Others may need to be cut.

Remember that students will need good exposure to the content of your course in order to apply it in an assignment. But once again, place application at the center of your planning rather than focusing on coverage. Coverage is necessary, but if there's only time for covering content and not applying it, how do you know that learning is actually taking place? Perhaps you need to rethink how you are using class time and how students are first exposed to the content so that there is ample opportunity for skill demonstration and application. The section of this workbook on Learner-Centered Teaching may give you some ideas.

Course Alignment Worksheet II

Course:

Week	Skills	Exercises, Activities, Assignments
1		
2		
3		
4		

Week	Skills	Exercises, Activities, Assignments
5		
6		
7		
8		

Week	Skills	Exercises, Activities, Assignments
9		
10		
11		
12		

Week	Skills	Exercises, Activities, Assignments
13		
14		
15 Finals		

Working with Different Learning Styles

Now that you have a plan for your class, based on your outcomes and assignments, it's time to look at your teaching methods. Do your methods encourage all students to learn? How well do you work with students of differing learning styles?

Every instructor knows that students learn differently – all it takes is a look around the classroom. Students simply don't all absorb material in the same way. Yet, Learner Outcomes Institute faculty found, after analyzing their classroom practices, that they tended to teach to only one particular learning style, and it usually matched their own. Becoming aware of this allowed faculty to create new methods of instructional delivery designed to reach all students.

This portion of the workbook is designed to help you:

- Identify your own learning style
- Analyze your teaching methods in respect to learning style
- Design new activities or methods of delivery that will reach all learning styles

Step One: Identifying Your Learning Style

There are several methods or theories that describe student learning styles. Though they may call the various types different names and base their classification systems on contrasting research, all agree that learning style can be divided into several broad categories and these affect how students learn. Several on-line sites describe their approach to the subject and provide a quick test or questionnaire that will identify the user's learning style.

Use one of the sites listed below to identify your own learning style, its strengths, weaknesses and preferences and read the site material on how that style learns best. Then familiarize yourself with the other learning styles listed. Use the **Identifying Learning Style Worksheet** to gather information.

1. Keirsey Temperament Sorter:
www.advisorteam.com/temperament_sorter.register.asp
2. Index of Learning Styles:
www.ncsu.edu/felder-public/ILSdir/styles.htm
3. Learning Style Survey for College:
www.metamath.com/mutliple/multiple_choice_questions.cgi
4. Support For Learning:
This marvelous site includes many different learning styles tests and resources for faculty to analyze them.
www.support4learning.org.uk/education/lstyles.htm

Identifying Learning Styles Worksheet

My Learning Style (list name)	
Key Characteristics (list several important traits)	
Best Learning Methods (list preferred learning activities)	
Other Learning Style	
Key Characteristics	
Best Learning Methods	
Other Learning Style	
Key Characteristics	

Best Learning Methods	
Other Learning Style	
Key Characteristics	
Best Learning Methods	
Other Learning Style	
Key Characteristics	
Best Learning Methods	

Step Two: Analyzing Your Teaching Methods

Now it's time to take a look at your teaching methods. Are they primarily directed at one learning style? Some Cabrillo faculty have been surprised and shocked to find how frequently they teach to only one learning style. Most have found that after analyzing their own preferences, it was easy to add activities or assignments that reached other learning styles. Students enjoyed the variety and, much to the instructor's delight, deeper learning took place for all.

To analyze your teaching methods, revisit **Course Alignment Worksheet II**. In the margins, identify which learning styles are targeted by each activity on the sheet. Take an inventory of the types of activities you are planning. Over the course of the semester, do you have a balance of activities for all learning styles? Do you provide alternative methods for some assignments so that all learning styles are given an opportunity to succeed?

Step Three: Designing New Activities

You can easily design new class activities or assignments to balance the learning style emphasis in your class by using the information on the **Identifying Learning Styles** worksheet. Take a careful look at the best learning methods for each learning style. Then decide if any of the activities on your **Course Alignment Worksheet II** can be changed so that they work for a different learning style. Record your changes on the **Revised Course Alignment Worksheet**.

Revised Course Alignment Worksheet

Course:

Week	Skills	Exercises, Activities, Assignments
1		
2		
3		
4		

Week	Skills	Exercises, Activities, Assignments
5		
6.		
7		
8		

Week	Skills	Exercises, Activities, Assignments
9		
10		
11		
12		

Week	Skills	Exercises, Activities, Assignments
13		
14		
15 Finals		

Learner-Centered Teaching

Now that you've organized your course with respect to scheduling assignments and teaching to different learning styles, it's time to look at them through one last lens: how learner-centered is your class?

What is the focus in your class room? Do students spend most of their time listening to you lecture, give perspectives on an issue or relate important content information? Or do they spend it on activities that require them to interact and grapple with what is being taught? Is there a balance between the two? What lies at the center of the hours that you and your students spend together? What is actually going on?

This portion of the workbook will:

- Explain some of the theory behind learner-centered teaching
- Help you to analyze your own approach

Learner-Centered Teaching: The Theory

The theorists behind the SLO teaching model believe that we need to make a change in how we think about classroom instruction. Some have gone so far as to call it a “paradigm shift.” The shift asks faculty to define their role in a different way. We should no longer think of ourselves as primarily imparters of information whose job is to pour knowledge into the empty heads of passive students. Rather, our role should be to facilitate student interaction with the material, providing the information but stepping aside from a starring role and becoming more of a supporting player. Students should be at the center of the course, interactively working with the knowledge that they are being taught.

The debate on this theory has been fierce. The SLO theorists support their beliefs with research which shows that students learn critical thinking and higher-order reasoning from interactive activities in the classroom rather than lecturing. This “active learning” has been shown to result in greater and more long-lasting information retention and skill-building. Students seem to be able to do more with what they’ve learned.

On the other hand, those who question this approach to education point out that students can’t do anything with material until they have learned basic concepts, facts or vocabulary in a field of study. Furthermore, in order to facilitate an orderly sequence of learning and, in community colleges, to help students transfer, certain areas must be covered before a student can move on. How in the world can a hard working instructor cover the necessary basics and still have time in class for all this interactive learning?

Faculty at Cabrillo’s Summer Learner Outcomes Institutes have joined the debate and conducted their own experiments using a learner-centered approach. For most, this meant examining how they were using class time. A helpful way to think about this issue, as presented in *Effective Grading A Tool for Learning and Assessment* by Barbara Walvoord and Virginia Anderson, is to consider when it is best for students to **first** be exposed to new concepts and information. In the traditional way of teaching, this is done through lecture in class. Active-learning asks students to do the first exposure at home. The figure below, from *Effective Grading*, demonstrates the approach.

	Lecture based Teaching	Interactive Teaching
Class time	First exposure (Student first hears or observes facts, ideas, processes not encountered before)	Process (student applies, analyzes, argues, solves problems using first exposure material)
Student Study time	Process	First Exposure

"That's all very nice," you might argue, "but my students won't often read the material assigned for homework or they won't understand it when they do."

Cabrillo faculty have found that asking students to do first exposure at home means that they must create some sort of inducement or good reason for students to make the effort. Faculty have:

- Given quizzes
- Assigned short writings
- Required students to answer a short set of questions that must be turned in at the beginning of each class.

Designing some sort of activity that counted toward the final grade resulted in students doing the work. Then, class time was spent processing the information or solving problems (note the emphasis on student activity), with the instructor available to help, but not to lead.

Faculty graded this preparatory work, but didn't spend much time on it. They didn't respond with the kind of detail they would use for a major assignment or project. Instead a small number of points were awarded, work was either passed or not passed or given a check plus, check or check minus grade.

This approach can work for large classes as well. Some instructors have begun to use class time for problem solving, rather than lecture. When lectures are necessary, faculty are aware of the research that states that after 10-20 minutes of continuous lecture, the ability to assimilate and understand the material greatly decreases. The following techniques can be used to help students retain lecture information:

- After 7-10 minutes, stopping to ask rhetorical questions which are answered in student notebooks.
- Surveying the class ("Raise your hand if you agree or disagree or have encountered an example?")

- Turn to your partner and (share examples or repeat back just learned information)
- Guided lecture (students listen for 15-20 minutes without taking notes, then spend 5 minutes recording all they can remember. They then work in groups to reconstruct the lecture conceptually, teaching it to each other)
- Immediate Mastery Quiz (a quiz is given at the end of each lecture. The Seattle Community College district has done research that shows that learners retain almost twice as much material when a quiz is included at the end of the period)

At the end of this section are a list of other resources for making large classes interactive.

Finally, a word of warning. Cabrillo faculty have found that some students do not respond positively to an active learning approach. They are comfortable with sitting back and passively receiving material. They want their instructors to be like television: entertaining, mildly interesting and asking nothing more of them than to watch. A learner-centered approach to teaching demands much more from students and makes learning more of their responsibility. Some students had difficulty in changing their role in the classroom.

Sources for Active Learning

The sources listed below appear in Wolvoord and Anderson's *Effective Grading*. Another helpful source are the yearly Teacher Trade Tricks flex workshop, where Cabrillo faculty share techniques that work in the classroom. Most of the successful techniques shared are active learning methods.

Resource 4.2.

Sources for Interactive Teaching and Learning.

Bean, 1996. Integrating writing, critical thinking, and active learning.

Bonwell and Eison, 1991. Strategies for active learning.

Brown and Ellison, 1995. Single chapter overview, with specific examples of faculty using active learning.

Halpern and Associates, 1994. Part one contains six articles on instructional strategies that promote active learning.

Meyers and Jones, 1993. Strategies for active learning.

Resource 4.3

Sources for Making Large Classes Interactive.

Bonwell and Eison, 1991. Summary of research about learning in large classes and suggestions for making them interactive. (See pp. 14-19.)

Gibbs and Jenkins (eds.), 1992. Teaching large classes in higher education: how to maintain quality with reduced resources. Theoretical issues, case studies, and institutional support for change.

Tobias, 1994. Reports how a chemistry professor improved students' pass rate in large classes.

Walvoord and Williams, 1995. Video for faculty shows how five faculty from various disciplines are making large classes interactive.

Weimer (ed.), 1987. Collection of essays on teaching large classes.

Electronic discussion group to share ideas about large classes. To join, send the following email message [SUBSCRIBE LCIG-L first name last name] to [LISTSERV@UGA.CC.UGA.EDU].

Analyzing Your Teaching

A quick way to get a sense of your approach to teaching is to once again return to the **Revised Course Alignment Worksheet**. Look over your list of activities and exercises. How are you using class time? How much is used for first exposure to course materials? How much first exposure occurs out of class?

In the margins, note where first exposure occurs each week of the semester.

If you find that most of your class time is devoted to first exposure, is it possible to redesign the course so more processing can occur in class? What kinds of carrots can you create so that students will be rewarded for completing first exposure on their own time (and penalized if they don't do it)? Can you design any class activities so that students have more opportunity to problem solve, analyze, argue or apply course content?

If you are willing to experiment, revise that **Course Alignment Worksheet** one last time to alter where exposure first occurs and to design new class activities that allow students to process materials. Use the **Revised Revised Course Alignment Worksheet** to record your ideas.

Revised Course Alignment Worksheet

Course:

Week	Skills	Exercises, Activities, Assignments
1		
2		
3		
4		

Week	Skills	Exercises, Activities, Assignments
5		
6.		
7		
8		

Week	Skills	Exercises, Activities, Assignments
9		
10		
11		
12		

Week	Skills	Exercises, Activities, Assignments
13		
14		
15 Finals		

Part III: Assessing Student Mastery of Student Learning Outcomes

Overview

How can you tell if students in your course have achieved mastery of your student learning outcomes? That's easy. You simply grade the assignments which measure the outcomes. However, you may need to grade differently than you have been doing. This teaching model believes that students will perform better if they understand how they will be graded **in advance**. They need to know the precise standards and criteria that make up an A, B or C grade.

"But, my students know that already," you perhaps protest. "We talk about it on the first day of class. The percentages that make up their final grade are right in my syllabus. And I use a grading sheet when I return work."

Many faculty at the Summer Learner Outcomes Institute began the session certain that they were perfectly clear with students about grading. Sure, they had some complaints over the years, but that was to be expected. Yet, when asked if they told their classes exactly what elements composed an A paper, project or major assignment, most admitted that they had not gone into it in that kind of detail. The good news is that once they did, through developing a **grading rubric**, they found that students were much less confused. Students seemed to have a better grasp of what they needed to do to successfully complete an assignment. More importantly, once the assignments were graded using the rubric, students understood the marks they earned. Complaints about grades were greatly reduced!

A **rubric** translates the standards and criteria that make up grading into some sort of chart or description. Rubrics can be used to score many kinds of written assignments or exams, papers, projects, speeches or portfolios. They are not useful, however, as a grading mechanism for multiple choice or short answer tests. However, you can analyze those kinds of assessments by looking at groups of questions to also determine how well students are mastering your outcomes.

A rubric answers the question, "What precisely is an A on a particular assignment or project? How is it different from a B or C?" While this is information that many of us carry inside our heads, in order to clearly assess student learning outcomes, it must be articulated in writing. However, it is up to you – the expert in your classroom – to define these standards and criteria and how they will be applied to the class work that you assign. Your rubric will be as individual as your grading style and pedagogy.

This portion of the workbook is designed to help you create grading rubrics for the major assignments that measure your SLOs. It's divided into four sections:

- Sample Rubrics
- Defining rubric components
- Describing levels of success for each component
- Assembling both the components and levels of success into one document

After you have created a rubric, it's helpful to share it with another faculty member in your discipline (or better yet, in a different discipline) to check if:

- The wording is understandable to a student or novice (watch for an excess of discipline-specific jargon).
- The progression of criteria for each level is logical and consistent.

Sample Rubrics

A rubric is an individual as an instructor, the assignment or the course. They can be organized and presented in many different ways. Before designing your own, it's helpful to look at rubrics developed by other teachers in different disciplines. The following rubrics were all created by Cabrillo faculty at the Leaner Outcomes Summer Institute and have been used successfully by the instructors. Take a look at all the different ways you can organize and present your grading criteria to students.

Note the sample grading sheet on the last page that is tied to an English 1A rubric. Students receive both the rubric and grading sheet before attempting the assignment. The sheet is used to summarize how well the students did on each aspect of the grading rubric. It also articulates what they need to do to improve their grade in the future.

Institute faculty who used rubrics combined with grading sheets for the first time reported that they spent less overall time grading.

Sample Rubric

Short Essay Rubric

(Used in my Human Genetics course.)

Score	Content	Organization	Development	Use of Language
5	Answer is appropriate to the question. Content is factually correct.	Clear sense of order. Begins with a thesis or topic sentence. Supporting points are presented in a logical progression.	Develops each point with may specific details. Answers question completely.	Uses technical or scientific terminology appropriately and correctly. No major grammatical or spelling errors.
4	Answer is appropriate to the question. Content may have one or two factual errors.	May lack a thesis sentence, but points are presented in a logical progression.	Each point supported with some details and evidence. All important points included.	Accurate word choice. No more than 2 major errors and a few minor errors.
3	Content relates peripherally to the question; contains significant factual errors.	Logic of argument is minimally perceivable. Points presented in a seemingly random fashion, but all support argument.	Sparse details or evidence. Question only partially answered.	Ordinary word choice; use of scientific terminology avoided. Some serious errors (but they don't impair communication).
2	Content unrelated to question.	Lacks clear organizational plan. Reader is confused.	Statements are unsupported by any detail or explanation. Repetitious, incoherent, illogical development.	Limited vocabulary; errors impair communication.

Developed by Denise Lim, Biology.

Sample Rubric for Assessing Photographs

1. Concept, idea, visualization:

- 10 pts Shows coherency of the concept with a high degree of originality and sophistication. The idea is well stated with visual elements and cues.
- 9 pts Shows coherency of the concept with some originality and sophistication. The idea is stated with visual elements and cues but needs to be more clear or more strongly evident.
- 8 pts Shows some coherency of the concept with commonly used, cliché or stereotyped imagery. The idea is obtuse, and requires greater clarity through the use of visual elements and cues.
- 7 pts Lacks general coherency of the concept. Many of the visual elements and cues do not lead the viewer to the intended idea.
- 6 pts Lacks any coherency of the concept. Visual elements and cues do not lead the viewer to the intended idea.
- 0 pts The work was not presented to me.

2. Composition & design:

- 10 pts Shows strong internal integrity of the visual elements. Nothing needs to be added or removed – framing is superb.
- 9 pts Shows internal integrity of the visual elements. A visual element needs to be added, moved or removed – framing needs some slight adjustment.
- 8 pts Shows obvious weaknesses in the internal integrity of the visual elements. Many visual elements need to be added, moved or removed – framing needs definite adjustments.
- 7 pts Image is breaking apart – there is very little internal integrity of the visual elements. Most visual elements need to be rethought – framing needs major readjustment.
- 6 pts Visual integrity is nonexistent and image has broken apart. All of the visual elements need to be rethought – framing needs a complete overhaul.
- 0 pts The work was not presented to me.

3. Technical:

- 10 pts Shows master in the use of photographic equipment and techniques to attain the assignment parameters.
- 9 pts Shows a good command of the use of photographic equipment and techniques to attain most of the assignment parameters.
- 8 pts Shows some command of the use of photographic equipment and techniques to attain some of the assignment parameters.
- 7 pts Shows limited command of the use of photographic equipment and techniques to attain a few of the assignment parameters.
- 6 pts Shows little or no command of the use of photographic equipment and techniques to attain a few or none of the assignment parameters.
- 0 pts The work was not presented to me.

Developed by Susan Hoisington, Photography.

Sample Rubric for Oceanography 10 Lab Project

Bathymetric Map and Cross Section (Lab #2) Grading Criteria

An “A” grade (9 or 10 out of 10):

- The contour lines are extremely smooth and evenly spaced with none of them touching each other.
- Every water depth # has the appropriate contour line next to it and the entire map is “contoured”.
- The overall presentation is excellent.
- The cross section is accurate and complete and the bottoms of the canyons and top of the ridge are not flat.
- The ends of the cross section are complete and the paper shows the vertical exaggeration.

A “B” grade (8 out of 10):

- The contour lines are neat and smooth and appropriately spaced and some are touching, but very few.
- Nearly all the water depth #'s are contoured, some may be missing, but very few.
- The overall presentation is good and very few “shadows” are showing.
- The cross section is accurate, but some information is missing, particularly on the ends.
- Vertical exaggeration may or may not be shown.

A “C” grade (6 or 7 out of 10):

- The contour lines are a little wide and show fringes, some may have double ends and some of them are obviously touching each other.
- Some of the water depth #'s may not be contoured and the contour lines are all not evenly or properly spaced. There may be shadows on the map and the overall presentation is slightly sloppy.
- The cross section is mostly accurate, but some information is off line and missing, particularly on the ends.
- Vertical exaggeration may not be shown.

A “D” and “F” grade (5 or less out of 10):

- The contour lines are sloppy and inaccurate and some or many are touching each other.
- Several of the water depth #'s are not accurately contoured and the map is not complete.
- The overall presentation is below or far below average.
- The cross section is inaccurate, and much information is off line and missing.
- Vertical exaggeration may be shown.

Developed by Dave Schwartz, Geology.

English1A Essay Rubric

WOW!!! (90-100 Points - Grade A)

- Begins with an introduction that shows your understanding of the issues, grabs your readers' attention, and presents a strong and insightful thesis or point of view.
- Engages the topic in a thoughtful and individual way, showing originality, elegance and clear thinking.
- Develops the topic using a strong detail, quotes from other sources, and a unique synthesis of ideas.
- Utilizes library research and quotes from outside sources, always properly citing them using the MLA format.
- Possesses a fully explained and logical progression of ideas that indicates the writer's sensitivity to different ways of looking at the topic with an awareness of key counter arguments and a consideration of how those alternate positions shape your understanding of the topic.
- Ends with a strong conclusion that clarifies the significance of the paper's lessons
- Chooses words aptly and sometimes inventively.
- Demonstrates mastery of most of the grammar and usage conventions of Standard English.
- Uses phrasing, tone, and expression that reflects a unique personal voice.

Good! Almost There (80-89 Points - Grade B)

- Begins with an introduction that shows some understanding of the issues, gives some background and has an adequate thesis or point of view.
- Presents a thoughtful response to the topic, using appropriate reasoning and a partially realized analysis that is accurate.
- Develops the topic showing appropriate details, a sense of orderly progress between ideas, and use of references that reveal a familiarity with the topic.
- Uses words precisely if not creatively.
- Varies sentence structure enough to read smoothly.
- Utilizes library research and quotes from outside sources, usually properly citing them using the MLA format.
- Uses competently the conventions of written English, containing few, if any, errors in sentence structure, punctuation and capitalization or usage.
- Uses mostly consistent phrasing, tone and expression that reflects a personal world view and style.

Getting there (70-79 Points - Grade C)

- Presents an adequate response to the topic, using superficial analysis and weak point of view.
- Uses logical reasoning, but the supporting evidence is general and imprecise with few examples. There may be some small factual errors.
- Uses a less precise vocabulary and may contain awkwardness of expression.
- Utilizes library research and quotes from outside sources, with fairly consistent use of the MLA citation format. May make some errors.
- Contains minor errors in mechanics and usage, and perhaps one or two more distracting errors in sentence structure.
- Uses fairly consistent phrasing, tone and expression that reflect a personal world view and style with occasional inconsistencies.

Try Again (60-69 Points - Grade D)

- Responds to the topic illogically, without a coherent structure or focus.
- Has no point of view, uses mostly summary and lacks evidence and support.
- Makes several large, factual errors.
- Makes enough errors in usage and sentence structure to cause a reader serious, if occasional, distraction.
- Improperly uses the MLA format for citations. Makes major errors in quoting and uses few sources.
- Uses frequently inconsistent phrasing, tone and expression, often formulaic and imitative; lacks evidence of a personal worldview and style.

Let's not even go there (50-59 Points - Grade F)

- Doesn't attempt the task or distorts it
- Lacks organization or detail.
- Contains many distracting errors in sentence structure, simplistic or inaccurate word choice, many repeated errors in grammar and usage.
- Not enough is written to get a sense of personal worldview and style.

English 1A Grading Sheet

Paper #1-7 Grading Sheet

Name: _____ Total Grade: _____

This paper is one of the pieces of evidence for Outcomes #3 and 4:

- **Write essays**, including research-based writing, **demonstrating** academic rhetorical strategies and documentation.
- **Analyze** and evaluate assigned and researched texts.

Based on the grading scale listed under Grading Requirements, your grade is divided into the elements listed in the chart below.

Elements of Grade	Wow!	Good	Getting There	Try Again	Let's Not Go There
Introduction					
Thesis or Claim					
Response to Topic					
Evidence to support thesis					
MLA citation and documentation					
Awareness of counter arguments					
Flow and order of Ideas					
Conclusion					
Word Choice					
Grammar and Punctuation					
Personal Voice					

Grammar/Writing Issues
Last Paper:

Grammar/Writing Issues
This Paper:

Comments:

Defining Rubric Components

Now that you've looked at other rubrics, you're ready to create one of your own. The first step in designing a rubric is to define **the elements** that compose the assignment that will be grading. What are the types of things you are looking for? What elements go into determining a student's grade? Use the Rubric Component Worksheet to articulate the particulars of the assignment. If you're not sure how to begin, look over the sample rubrics once more to see how other Cabrillo instructors defined their rubric components.

Rubric Component Worksheet

Assignment	
Assignment Components	
1.	2.
3.	4.
5.	6.
7.	8.

Describing Levels of Success

Use the worksheets to articulate your standards for each component in each grade level.

Score: A	Write a sentence that describes the component at this level. Be as specific as possible.
Component 1:	
Component 2:	
Component 3:	
Component 4:	
Component 5:	
Component 6:	
Component 7:	
Component 8:	

Score: B	Write a sentence that describes the component at this level. Be as specific as possible.
Component 1:	
Component 2:	
Component 3:	
Component 4:	
Component 5:	
Component 6:	
Component 7:	
Component 8:	

Score: C	Write a sentence that describes the component at this level. Be as specific as possible.
Component 1:	
Component 2:	
Component 3:	
Component 4:	
Component 5:	
Component 6:	
Component 7:	
Component 8:	

Score: D	Write a sentence that describes the component at this level. Be as specific as possible.
Component 1:	
Component 2:	
Component 3:	
Component 4:	
Component 5:	
Component 6:	
Component 7:	
Component 8:	

Score: F	Write a sentence that describes the component at this level. Be as specific as possible.
Component 1:	
Component 2:	
Component 3:	
Component 4:	
Component 5:	
Component 6:	
Component 7:	
Component 8:	

Making A Rubric Document

As the sample rubrics demonstrated, there are many ways to assemble the standards and criteria you have just articulated into some kind of document that you can show students. A chart works well for rubrics with only a few components, such as the one created by Denise Lim for essays in her Biology class. A rubric with many components may need to be written out in detail, like the English 1A one. There is no right way to do this. You must find the method and shape that bests fits your style and topic. The key issue, however, is **clarity**. You want your rubric to be easily understood by your students.

Once you have put together your rubric, try to find other faculty who you can show it to. See if it makes sense to them. It helps to ask faculty outside your discipline, because perhaps they will be novices in the subject area, just like your students at the beginning of your course. If faculty in other disciplines can understand your rubric, hopefully your students will be able to as well.

Once you actually start using your rubric in your classes, you may find that you need to modify it. There may be areas that are unclear or need more delineation. You may not have included an element that you find is very important. Consider your rubric a work in progress and expect it to change over time.