Barstow Community College

SLOAC HANDBOOK

Student Learning Outcomes and Career Technical Education Program Assessment

Fall 2011
Acknowledgements

We wish to thank the following members for their assistance in the design and development of the Barstow Community College SLOAC Handbook:

David Grossman – Dean of Instruction

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Association of American Colleges and Universities website www.aacu.org

Bakersfield College’s assessment website (http://online.bakersfieldcollege.edu/courseassessment/)

Cabrillo College’s website (http://www.cabrillo.edu/services/pro/assess/assweb/index.html)

Mt. San Antonio College website (http://www.mtsac.edu/administration/senates/academic/documents/SLOAUOGUIDEBOOK090808FINAL.pdf)

Skyline’s College’s website (http://www.smccd.edu/accounts/skysloac/resources/html)

WE also included components of presentations by:

Dr. Mary Allen. You can access her handout at http://www.csub.edu/assessmentcenter/AllenWorkshopHandoutJan06.pdf.

http://www.rpgroup.org

Michelle Pilatti – President of Statewide Academic Senate
Contents

Section One: College Implementation Model ............................................................................................................. 5
  SLOAC Process ............................................................................................................................................................ 6
  The Beginning ........................................................................................................................................................... 7
  Barstow College’s Model for Implementation ......................................................................................................... 8
  How do we at the – Institutional Level – Program Level – Course and Student Support Services Level . 9
  Barstow College’s Student Learning Outcomes Assessment Cycle Philosophy .............................................. 10

Section Two: Creating Student Learning Outcomes ................................................................................................. 12
  The SLO Environment ........................................................................................................................................... 13
  What are Student Learning Outcomes? .................................................................................................................. 13
  How Does A SLO Optimize Learning? ..................................................................................................................... 14
  Objectives vs. SLO’s ............................................................................................................................................... 15
  Student Learning Outcomes Checklist ................................................................................................................ 18
  Writing SLO’s ......................................................................................................................................................... 19
  Major Assignments or Activities Approach ......................................................................................................... 19
  Objectives Approach ............................................................................................................................................ 19
  Student Learning Outcomes Worksheet I ............................................................................................................... 20
  Student Learning Outcomes Worksheet II ........................................................................................................... 21
  Student Learning Outcomes Worksheet III ........................................................................................................ 22
  Student Learning Outcomes Worksheet IV ......................................................................................................... 23

ALIGNING ASSIGNMENTS AND ACTIVITIES WITH STUDENT LEARNING OUTCOMES .................. 24

GETTING STARTED .................................................................................................................................................. 25
  Step One: Aligning Major Assignments with SLOs ............................................................................................ 25
  Alignment of Major Assignments .......................................................................................................................... 26
  Step Two: Questions to Consider After Aligning Major Assignments with SLOs ............................................. 27
  Step Three: Aligning Related Objectives with Major Assignments ................................................................ 27
  Activity Alignment Worksheet ............................................................................................................................ 28
  Step Four: Questions to Consider After Aligning Objectives with Major Assignments ............................... 29

ALIGNING COURSES WITH PROGRAM SLO’S ............................................................................................. 29

ALIGNING PROGRAM SLO’s WITH INSTITUTIONAL SLO’s ........................................................................... 31

Section 3: Assessment Planning and Implementation .............................................................................................. 32
  What You Can Expect .............................................................................................................................................. 32
Section One: College Implementation Model

This section of the handbook provides information on Barstow Community College’s approach to student learning outcomes and assessment. The mission of Barstow Community College is to: foster an innovative learning environment that respects the diversity of individual backgrounds, abilities, and cultures, by offering programs to prepare students in basic skills, career and technical education, and lifelong learning opportunities that promote student engagement, retention, and success. In keeping with the mission, Barstow Community College ensures that student learning outcomes are at the center of its key processes and allocation of resources through the process of continuous assessment of student learning. The Barstow Community College model for Student Learning Outcomes ensures that Student Learning Outcomes and Assessment at all levels: course, program, and institution are integrated through collaborative, college wide planning, and support the mission, vision, values, and overall goals, of the college. The graphic depiction of the model demonstrates the cycle of continuous feedback and dialog within a framework of student learning outcomes and assessment tied to the college’s mission, vision, values, and overall goals, of the college. The process describes the flow and recommended starting points and the philosophy provides the vision and direction for SLOAC at Barstow Community College.
SLOAC Process
There are three principal assessment efforts currently in effect at Barstow Community College. They are:

1) Core Competencies (See Appendix A)
2) Degree, Certificate, or Pathway – Program Level Student Learning Outcomes (PLO’s) (See Appendix B)
3) General Education Outcomes (GEO’s) – Course Level(See Appendix C)

The central questions we are continuously assessing are:

1) Upon completing a course/degree (including utilization of or participation in student services or special programs/services, e.g., EOPS program), what do we want students to learn?

2) How do we know they’ve learned it?

3) If the assessment results are less than satisfactory, what do we need to refine in order to help them learn?

The Barstow Community College model for outcomes assessment revolves around continuous dialogue to ensure a systematic, ongoing cycle of assessment. The assessment is crucial to the continuous understanding and improvement of student learning.

Assessment promotes continuous improvement by providing necessary evidence to guide effective decision making at all levels: Classroom/Course level, Student Support Services; Program level; and Institutional level. Assessment means “the systematic collection, analysis, interpretation, and use of information to understand and improve teaching and learning...Assessment is an ongoing process aimed at understanding and improving student learning” (Angelo 7).
The Beginning:

At Barstow Community College the assessment cycle begins at the Course/Student Services level. Faculty and staff, as discipline experts and service providers, create student learning outcomes in their course outlines or service plans, and assess, analyze, and revise them at the classroom/service level. SLO’s are clearly articulated so that students are aware of both the expected outcome and the means of assessing the outcome. To complete the assessment cycle, faculty and staff use classroom/service evaluation data to revise and refine SLO’s for a given course/service. Assessment at this level is faculty/staff directed, student centered, and linked to program and institutional SLO’s. Assessment efforts are intended to address student needs and service issues, not to evaluate the individual faculty members or the departments.

At the Program level, the process of creating, assessing, analyzing, and revising student learning outcomes for both instructional – including core competencies and the general education curriculum – and student services/support programs is the responsibility of instructional departments and student services. Through program review, individual faculty and staff, departments, and the vice president of instruction, interim dean of instruction, dean of workforce development, and student services revise instructional programs and student support services for continuous improvement of student learning. Program review plans integrate resource prioritization, allocations, and distribution of human resources. Program review activities correlate with and are in consort with Course Level and/or Student Services activities, and directly contribute to the achievement of the institutional mission and goals.

At the Institutional level, the process of creating, assessing, analyzing, and revising student learning outcomes is accomplished by college wide, collaborative planning; implemented by shared governance groups; and assessed by the Dean of Research, Development and Planning and other college constituencies. All faculty and staff are recognized as professionals who support the educational mission and goals of the college. Institutional outcomes assessment is linked to Course and Program SLO’s through institutional planning, budget, and evaluation processes.
Barstow College’s Model for Implementation:

The Student Learning Outcomes model represents the intertwining relationships at all levels at the college whether at the course, student services, program or institutional level. Each level begins with planning, continues through implementation and finally assessment. The assessment process is not complete until it is re-evaluated. When the completion of one cycle occurs it will have an effect on the process and signal the launch of a subsequent cycle. It is the continuation of the cycle process that helps to build on strengths or improve weaknesses as we reflect on the cycle as a whole.
How do we at the – Institutional Level – Program Level – Course and Student Support Services Level

- Explore the student learning process?
- Determine the extent to which the curriculum is working?
- Where can time, energy and/or money be allocated for continuous improvement in learning?
- How do we show the public our pledge of academic quality?

The Student Learning Outcomes model represents the importance of the relationships at all levels at the college whether at the course, student services, program or institutional level. The rubric for evaluating institutional effectiveness for: Awareness, Development, Proficiency, and Sustainable Continuous Quality Improvement is a cycle of program review, planning, and student learning outcomes (See Appendices D, E, & F). The assessment process is not complete until it is re-evaluated. The completion of one cycle will have an effect on the process and begin the subsequent cycle. It is this type of continuity among all stages of the cycle that helps to build on strengths or improve weaknesses through a reflection on the cycle as a whole.
Barstow College’s Student Learning Outcomes Assessment Cycle Philosophy

Barstow Community College is committed to facilitating student success. Student Learning Outcomes Assessment Cycle (SLOAC) asks campus constituents to engage in reflective practice. Properly conceived, the SLOAC should be first and foremost about improving student learning. As such, Barstow College stands by the American Association of Higher Education’s (AAHE) “Nine Principles of Good Assessment” (See Appendix I) the first principle states that “Assessment is not an end in itself but a vehicle for educational improvement.”

Barstow Community College is well aware that in any evaluation of student learning, the use of Student Learning Outcomes (SLO’s) is only one component of the overall profile. The Council of Higher Education (CHEA) Board of Director’s Statement of Mutual Responsibilities for Student Learning Outcomes (September 2003) states that “judgments about quality are complex and must be based on a range of factors, including the purposes, resources, processes, and values of an institution...In applying these guidelines, it is imperative for accrediting agencies...as well as the institutions and programs they accredit...to avoid narrow definitions of student learning or excessively standardized measures of student achievement.”

Barstow Community College supports the mandate of the Academic Senate of California Community Colleges that a successful SLOAC must engage faculty and be faculty driven (ASCCC Resolution 2.01 F04 “Insistence that SLO Design Originate with Local Faculty”). The responsibility for teaching and learning lies primarily with faculty, who are well versed in their disciplines, invested in student learning, and knowledgeable about the principles of their respective programs, professional associations and licensing boards. Thus, faculty play a crucial role in developing statements of what students will learn in the course, program, and institutional levels as well as interpreting and determining the implications of data. Secondly, the use of SLO’s at the department level or individual course level should not be prescriptive or intrusive on the principle of academic freedom (ASCCC Resolution 2.01 F03 “Protection of Academic Freedom and Privacy of Students and Faculty”).

With this in mind it is imperative to maintain collaboration between faculty, classified staff, administrators, and students to achieve our institutional goals. Barstow Community College realizes that the SLOAC “foster(s) wider improvement when representatives from across the educational community [student services, staff, other key members of college’s support system, and students] are involved” (AAHE assessment principle #6). Dialog will occur through the participation of all involved with an end result in improving student learning.

Barstow Community College is committed to institutionalizing the SLOAC. The information gathered should be used in the curricular level to the planning and budget level. Barstow Community College affirms the AAHE’s assessment principle #7: “The point of assessment is not
to gather data and return ‘results’: it is a process that starts with the questions of decision-makers, that involves them in the gathering and interpreting of data, and that informs and helps guide continuous improvement.” Assessment efforts are intended to address student needs and service issues, not to evaluate the individual faculty members or the departments (ASCCC Resolution 2.01 F03 “Protection of Academic Freedom and Privacy of Students and Faculty”).

The decisions about the development and application of the SLOAC are the responsibility of faculty, administrators, and accrediting agencies. Thus, the responsibility for the interpretation and local implementation of the SLOAC shall remain within the purview of individual faculty/department/programs or student services unit. The SLOAC initiative serves as a means to enhance student learning.
Section Two: Creating Student Learning Outcomes

This section of the handbook provides information on Barstow Community College’s approaches to creating student learning outcomes. We begin first with defining learning outcomes and how they affect learning, as well as the distinctions that set objectives and outcomes apart. The handbook provides “step by step” approaches to help you write student learning outcomes, including worksheets to facilitate this process and a checklist for you to use once they are written.

For those who have generated course level outcomes, the handbook provides strategies to strengthen overall understanding of curriculum. As you look at the more immediate level this will assist in determining whether and how your assignments align with specific learning outcomes. On the more global level this will assist in determining whether and how course student learning outcomes align with those of the program and institution. To help you in this process, there are worksheets and questions to contemplate included in this handbook.
The SLO Environment

As you know, learning is a complex process that involves reciprocated expectations between students and faculty or staff. The knowledge a student learns depends upon how much he or she invests in the process as determined by the learning created by courses, programs, and institutions. Faculty and staff expect students to come prepared and committed to learn. Students, in turn, expect faculty to create effective learning opportunities and learning environments. Students expect us to hold them to appropriate standards and to help them attain these standards.

Student Learning Outcomes (SLO’s) help clarify the responsibilities of the students, faculty and staff. Faculty or staff are responsible for developing SLO’s at the individual course level, at the program level, and at the institutional level. Barstow College’s ultimate goal is to improve instruction and learning at all levels, as well as to satisfy an important component of accreditation. We are developing and implementing a sustainable program to assess student learning.

What are Student Learning Outcomes?

A SLO contains three primary characteristics:

A SLO is a clear statement of what a student should learn and be able to demonstrate upon completion of a course, program, or service. It describes the assessable and measurable knowledge, skills, abilities, or attitudes that students should attain by the end of a learning process. The learning process includes any set of college experiences (such as courses, degree programs, certificate programs, or utilization of or participation in student services or special programs/services).

An individual SLO is formulated “using active verbs (such as “analyze,” “compare,” “demonstrate,” etc.), and is classified within the framework of Bloom’s taxonomy of learning. A set of SLO’s for a particular course or program will incorporate any or all of the following three domains of learning that were developed by Bloom to classify intellectual behavior and learning:

1. Cognitive (knowledge and understanding)
2. Psychomotor (physical skills and abilities)
3. Affective (attitudes, behaviors, and values)

Refer to Appendix D for a fairly comprehensive list of active verbs for the three domains of learning.
Each SLO will be assessed by evaluating specific assignments (such as exams, essays, projects, portfolios, demonstrations, performances, etc.) that reflect the students’ performance or product and an understanding of the course/subject matter. The evidence obtained from the assessment should clearly indicate a specified level of competency upon completion of the course or program. Criteria or a set of standards need to be determined to evaluate the quality of a student’s learning, performance, or product. Developing clear evaluative criteria is as important as developing SLO’s.

**How Does A SLO Optimize Learning?**

The SLO enhances instruction and service activities and serves as a guide for good classroom and non-classroom practices. According to Chickering and Gamson (www.evergreen.edu/washcenter/natlc/pdf/fall1987.pdf), the seven principles for good classroom and non-classroom practices are:

- Encourage contact between students and faculty and staff
- Develop reciprocity and cooperation among students
- Encourage active learning
- Give prompt feedback
- Emphasize time on task
- Communicate high expectations
- Respect diverse talents and ways of learning

The SLO exemplifies high expectations for the instructor, and student. The SLO states what students should know and/or be able to do upon completion of the course or program. SLO’s should guide classroom and non-classroom practices. For example: the instructor might implement active learning activities such as debates or group projects that provide students the opportunity to practice or apply skills, tools, and/or content needed to achieve a learning outcome.

SLO’s are made public, transparent, and communicated to the student. They are part of the syllabus and shared with the student on the first day of class and referred to throughout the course. The instructor shares with the students the assignments for the course and how they are used to assess their learning. While outside of the classroom the support services interactions should communicate the outcomes through information about a process or activity. Ultimately, student should have a better understanding how to work with each other and with the instructor or staff to achieve these outcomes.

Again, the SLO syllabus informs the student what they should know and/or be able to display as a result of their learning experience. The expected outcomes—and the tools used to assess—
should be developed to respect different modalities of learning, talents, and diverse abilities of the students. Classroom and non-classroom assignments and activities or projects are designed to achieve the learning outcome, providing opportunities for students to express and demonstrate their creativity and efforts toward the desired outcomes.

**Objectives vs. SLO's**

Course objectives can be looked upon as being the “input,” and outcomes are the “output.” Instructors and staff provide the necessary tools and/or content of subject for students to accomplish the outcomes (the input). The student learning outcomes state what the students will demonstrate towards proficiency in the course (the output).

Study the example from one of the Bakersfield College Nutrition courses. What do you notice?

**Course Objectives:**

- Review nutritional recommendations and components.
- Discuss differences in nutritional requirements associated with sex, age, and activity.
- Describe causes and consequences of nutritional problems.
- Explain complications of underlying physiologic conditions (e.g. diabetes and malabsorption).
- Identify key factors involved in correcting nutritional behaviors.
- Describe resources and strategies to treat nutritional disorders.

**Course SLO** – Upon completion of this nutrition course, students will be able to analyze a documented nutritional problem, determine a strategy to correct the problem, and draft a nutritional policy addressing the broader scope of the problem.

The course objectives specifically indicate what the teacher will provide to the student so they meet have the opportunity to successfully accomplish the outcomes. The SLO indicates what the student should be able to do with their new knowledge. The SLO guides the students to a higher level of thinking that encompasses the content and assignments.

When developing student learning outcomes Skyline College references SLO’s as being “macro” level. With that said, let’s look at the big picture. SLO’s are:

- Broad in scope and require higher level thinking;
- Require students synthesize many discrete skills or areas of content;
- Ask students to produce something—papers, project, portfolios, demonstrations, performances, art work, exams, etc.—that applies what they have learned;
• Require faculty to evaluate or assess the product to measure student’s achievement or mastery of the outcomes.

If SLO’s are considered “macro” level then student objectives are more “micro” level. Instructors can utilize objectives to scaffold students by providing the skills, tools, and content for student’s to produce the outcome. Objectives are hands on experiences that can be assessed individually or a component of a project.

The developers of the handbook recommend using the following table to indicate the distinction between “objectives” and “outcomes”.

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objectives describe skills, tools, and/or content (nuts and bolts) that enable a student to fulfill the outcome(s).</td>
<td>Outcome(s) describe overarching product(s) that students will generate by applying the skills, tools, or content.</td>
</tr>
<tr>
<td>Objectives require the use of less sophisticated tasks such as comprehension or replication.</td>
<td>Outcome(s) require the use of higher level thinking such as analysis, synthesis, and evaluation in order to demonstrate student’s ability to apply the skills, tools, and/or content in authentic contexts for learning.</td>
</tr>
<tr>
<td>Objectives may be impossible to assess because they can often be numerous, specific, and detailed.</td>
<td>Outcome(s) are assessable; they result in product(s) that can be observed as a behavior, attitude, skill, or discrete usable knowledge and can be evaluated against criteria.</td>
</tr>
</tbody>
</table>

Encourage dialog with other instructors that are reflective of SLO’s and while doing so think about the following:

• Each course, classroom, and program has unique factors.
• Disciplines have unique language and culture.
• Cross disciplinary conversations are invaluable.
• Ultimately discipline—specific conversations best define competencies for students.
• Everyone is a learner when it comes to assessment.
• As professionals, we are guided by the principles of academic freedom.
As you develop your SLO’s you can use the following as a guide:

- Use action verbs. See Appendix G for the lists of action verbs.
- Make sure that the outcome is something that can be assessed or tested. For example, be careful when describing in a learning outcome. They are hard to assess. Ask yourself if the attitude is crucial to success in your course or service. Are you satisfied if a student possesses the knowledge and skills being taught but doesn’t have a certain attitude?
- Write the SLO’s in language that a student will understand. SLO’s will ultimately be included on your syllabus and you will explain them to the students. To check for clarity, try explaining the SLO’s to a colleague who is not in your field. See if he/she understands it.
- Limit your SLO’s to no more than four since eventually you’ll have to assess all of them.

The following is a Student Learning Outcomes Checklist that was originally developed by Skyline College and adapted for Barstow Community College. This checklist can prove to be a valuable tool to evaluate the quality and appropriateness of your SLO’s.
# Student Learning Outcomes Checklist

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do the SLO’s include active verbs?</td>
<td></td>
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<tr>
<td>Do the SLO’s suggest or identify an assessment?</td>
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<tr>
<td>Do the SLO’s address the expected level of learning using Bloom’s Taxonomy as a guideline?</td>
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<tr>
<td>Are the SLO’s written as outcomes rather than as objectives?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Language indicates an important overarching concept versus small lessons or discrete objectives.</td>
<td></td>
<td></td>
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<tr>
<td>• Outcomes address what a student will be able to do at the completion of the course, program, or service.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• SLO’s address student competency rather than content coverage.</td>
<td></td>
<td></td>
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<tr>
<td>Are the SLO’s appropriate?</td>
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<td></td>
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<tr>
<td>• Is consistent with the curriculum document of record.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Represents a fundamental result of the course.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Aligns with other courses in a sequence, if applicable.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Represents collegiate-level work.</td>
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<td></td>
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<tr>
<td>Will students understand the SLO’s?</td>
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<td></td>
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<td>If “no” in any category, what will you revise?</td>
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</table>
Writing SLO’s
Let’s get started! Many of you have been doing this all along. With that said, this is your opportunity to put what you intuitively know as a professional into words. We suggest two possible approaches to developing your SLO’s, though some faculty and staff have found that the two approaches complement each other and can be combined. Both are explained in more detail below with steps to follow and accompanying worksheets.

Major Assignments or Activities Approach:
A good place to start is to look at your major assignments or activities. In the left column, list all of your major assignments for the course or service, and describe what students will do to demonstrate their understanding—not just content, activities or hours. What is the primary purpose of each assignment? What are the students expected to produce as a result of each assignment? These are the products or demonstrations of your outcomes. Then in the right column, describe what the students are being asked to demonstrate in this assignment; note that sometimes multiple assignments will have a SLO in common. Depending on the number of outcomes, each sentence should describe each major knowledge, skill, ability or attitude that a student will have gained by the end of your class. (Instructors, see Worksheet I; Student Services staff, see Worksheet III.)

Objectives Approach:
Another approach to writing the SLOs is to draw from the specific objectives of the existing course outline or service, and to a lesser extent the assignments, activities and evaluation of student performance sections. Your objectives state what skills, tools, and/or content you'll provide; if said objectives are the "building blocks," what do you want them to "construct" in order to demonstrate competence? Try to categorize them according to the larger purpose that they will serve. By tying these objectives to something students will produce and an evaluation process, making them measurable in a given context, you have a quantifiable method of assessing whether a student has fulfilled the SLO. (Instructors, see Worksheet II; Student Services staff, see Worksheet IV."

1 Major assignments are culminating experiences, a synthesis of all of the minor assignments or activities that students completed. Think of the major assignments as being “the building” and the minor assignments as being “building blocks”—the skills, tools, content, opportunities for practice, etc.
<table>
<thead>
<tr>
<th>Major Assignments, Projects, or Tests and their Rationale</th>
<th>Outcome Knowledge Skill/Ability or Attitude That a Student can Demonstrate upon Completion of a Course or Program</th>
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</thead>
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## Student Learning Outcomes Worksheet II

**Course Name and Number:**

<table>
<thead>
<tr>
<th>Related Objectives</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skills, Tools, and/or Content that Instructors Provide and their Rationale</td>
<td>Knowledge Skill/Ability or Attitude That a Student can Demonstrate upon Completion of a Course or Program</td>
</tr>
</tbody>
</table>

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</table>
## Student Learning Outcomes Worksheet III

**Course Name and Number:**

<table>
<thead>
<tr>
<th>Major Assignments, Task, Projects and their Rationale</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Knowledge Skill/Ability or Attitude that a Student can Demonstrate upon Completion of a Student Support Services Unit</td>
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# Student Learning Outcomes Worksheet IV

## Course Name and Number:

<table>
<thead>
<tr>
<th>Related Objectives</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skills, Tools, and/or Content that Student Services Staff Provide and their Rationale</td>
<td>Knowledge Skill/Ability or Attitude that a Student can Demonstrate upon Completion of a Student Support Services Unit</td>
</tr>
</tbody>
</table>

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ALIGNING ASSIGNMENTS AND ACTIVITIES WITH STUDENT LEARNING OUTCOMES

The philosophical and pedagogical shift in thinking from “What I teach” in a class hour to “What students do” in that hour brings the focus of SLOAC down to individual assignments and activities for that class hour, class by class and week by week throughout the semester. Student learning outcomes provide a focus and standard for the classroom and address what the students will be expected to be able to do after successful completion of the course. Assignments should help students develop skills, competencies and attitudes relevant to learning outcomes (what students are asked to demonstrate in these assignments). When faculty align assignments with student learning outcomes, students may begin to apply higher learning to a given situation or context. Coming full circle, then, faculty can also use assignments to reflect on instructional priorities, in this case the SLO’s, and as a means to determine whether SLO’s should be revised.

When critiquing an assignment in relation to student learning outcomes, faculty needs to consider first the relevance of the assignment: does the assignment guide the students toward achieving learning outcomes, and if so, how? Just as importantly, do the course objectives (as stated in the course outline) build a bridge to fulfilling the SLO’s?

In the bigger picture, faculty will need to evaluate whether assignments align with SLO’s for a particular class, but then also whether they align with other courses in a sequence (“introduce, practice or demonstrate” in terms of course level outcomes) and, finally, whether they coordinate with program and/or institutional outcomes. In this evaluative process, faculty may find that they eliminate assignments that do not guide students toward an outcome, as well as create assignments which better address the cognitive, psychomotor, and affective domains of Bloom’s Taxonomy in order to comprehensively identify and measure student learning. Faculty already engaged in writing student learning outcomes and aligning their assignments to these outcomes say that the shift in thinking from what I teach to what students do has focused their efforts on student learning and brought day by day changes into their classrooms as they work to identify assignments that enhance learning and then assess whether that learning is taking place.
GETTING STARTED

In order to align assignments and activities with SLO’s this section of the workbook will ask you to consider the following questions:

- What are the major assignments-- papers, projects, portfolios, demonstrations, performances, art work, exams, etc.-- that measure your outcomes?

- What revisions, if any, need to be made?

- Which objectives-- skills, tools, and/or content-- help students to successfully complete your major assignments?

- What revisions, if any, need to be made? Consider, for instance, if students are expected to demonstrate proficiency through an assignment yet have not been given adequate preparation.

As you complete these steps, 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.

Step One: Aligning Major Assignments with SLOs

Use the Major Assignments Worksheet or a variation of the worksheet to plot which of the course SLO’s the major assignments fulfill. List horizontally the course's student learning outcomes; the general rule of thumb is that there should be a minimum of three and no more than four SLO’s. Then list vertically the major assignments that measure your outcome(s). Mark "X" if the assignment addresses the SLO. This information is also located in your program review.
### Alignment of Major Assignments

**Course Name and Number:**

<table>
<thead>
<tr>
<th>Assignments</th>
<th>SLO 1</th>
<th>SLO 2</th>
<th>SLO 3</th>
<th>SLO 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>
Step Two: Questions to Consider After Aligning Major Assignments with SLOs

Examining whether your assignments align with your outcomes is good classroom practice. To do so, answer the following questions:

- Do my assignments provide students with an opportunity to demonstrate their mastery of the SLOs? Specifically, do any of the assignments fail to satisfy any of the SLOs? Cross out the assignments that need to be replaced with new assignments that will measure the SLOs.

- Or conversely, do the SLOs need to be revised to more accurately reflect the purpose(s) of the assignment(s)? Circle the SLOs that need to be further scrutinized.

- Do my assignments require that students demonstrate the kinds of knowledge, skills/abilities, and/or attitudes that I am actually grading?

- Though it is difficult, check once again to make sure that the matrix you’ve created is focused on the assignments rather than the content that is covered.

Step Three: Aligning Related Objectives with Major Assignments

Narrowing your focus to the assignments that do align with your outcomes, identify the resources that each major assignment requires to be completed. As such, it is important to ask:

- What are the precise skills, tools and/or content (objectives) that students will need to learn in order to complete these assignments?

Use the following Activity Alignment Worksheet or a variation of the worksheet to plot which of the course SLOs each of the major assignments fulfills as well as the accompanying classroom activities.
<table>
<thead>
<tr>
<th>Activity Alignment Worksheet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Course Name and Number:</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Brief Description of the Assignment</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Which SLO’s the Assignment Addresses</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Objectives: Skills/Tools/Subject Materials Needed for Students to Complete the Assignment</strong></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Step Four: Questions to Consider After Aligning Objectives with Major Assignments

Looking at the charts for each of your major assignments, consider the following questions:

- Do my in-class activities, homework assignments, assigned reading and other exercises provide students the resources they need to successfully complete the assignment? Specifically, do I provide the necessary skills, tools, and/or content?
- Do my in-class activities, homework assignments, assigned reading and other exercises provide students adequate practice before the assignment is graded? If not, which need to be replaced?

This concept of "practice" is one of the key principles to using SLO’s as a means to strengthen your teaching. The emphasis is on what students can DO with what they are learning rather than the knowledge itself. Exposing them to the course content 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. Rather, students must practice the skills they are being evaluated on before that evaluation occurs. Secondly, students need feedback on what they've done. The National Research Council determined that timely, informative feedback facilitates practice and acquisition of proficiency of skills and deep learning. Such feedback can allow for formative improvement, not just summative judgment, to improve teaching and learning.

Granted, students will need good exposure to the content of your course in order to apply it in an assignment. However, place application at the center of your planning rather than focusing on coverage. **Coverage is a valid concern, 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. Research shows that students are most likely to retain what they've learned if they apply it.

ALIGNING COURSES WITH PROGRAM SLO’S

Aligning course SLO’s with Program SLO’s enables you to assess overall program coherence. Completing a matrix like the example below ensures that students have been introduced to the outcome, had formative feedback and opportunities for practice, and are finally assessed concerning successful student learning.
After writing the Program SLOs, conduct an analysis of where those SLOs are introduced (I), practiced (P), and demonstrated at the mastery level (D) by plotting them on the matrix. Consider the following questions afterward. For practice, apply the questions to the following example:

- Was each of the outcomes sufficiently introduced?
- Did students have enough opportunities to practice before being expected to demonstrate an SLO at the mastery level?
- Do the outcomes reflect the priorities of the instructors? If not, which outcomes either need to be more frequently addressed in the curriculum or perhaps deleted altogether?

This form is included in the program review – curriculum mapping.

<table>
<thead>
<tr>
<th>Course</th>
<th>SLO 1</th>
<th>SLO 2</th>
<th>SLO 3</th>
<th>SLO 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>I, D and M</td>
<td>I, D and M</td>
<td>I, D and M</td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>I, D</td>
<td>I,</td>
<td>I, D</td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>I, D and M</td>
<td>I, D and M</td>
<td>I, D and M</td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>I, D</td>
<td>I, D</td>
<td>I, D</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>I, D</td>
<td>I, D</td>
<td>I, D</td>
<td></td>
</tr>
<tr>
<td>61</td>
<td>I, D</td>
<td>I, D</td>
<td>I, D</td>
<td></td>
</tr>
<tr>
<td>67</td>
<td>I, D and M</td>
<td>I, D and M</td>
<td>I, D and M</td>
<td></td>
</tr>
<tr>
<td>74</td>
<td>I, D and M</td>
<td>I, D and M</td>
<td>I, D and M</td>
<td></td>
</tr>
</tbody>
</table>
ALIGNING PROGRAM SLO’s WITH INSTITUTIONAL SLO’s

Aligning Program SLOs with Institutional SLOs enables you to assess whether your program supports Barstow’s overall vision, and conversely, it gives us the means to determine whether our institutional core competencies reflect our priorities as instructors. Program assessment is more comprehensive than assessment at the level of courses, though both aim to improve learning outcomes and the educational practices that achieve those outcomes. Program review has been largely about displaying the details of the program. The aim of program assessment, however, is to produce improvement in the achievement of learning outcomes. Some of the SLOs at both the course level and the program level will match the overall aims of Barstow Community College. For example, it is part of the mission of Barstow Community College to “provide an open-access learning environment that promotes critical thinking, communication, personal and professional responsibility, and global awareness by offering quality courses, programs, and support services” This mission statement, cast as it is in terms of “understanding” (not an SLO term) could be reformulated as an SLO for the institution. Program assessment will then be aligned with this institutional SLO, with each distinct program offering its own approach. For example, Mathematics, Psychology, and History will each have their distinct approach to this learning outcome. Where applicable, each program will formulate SLOs that align with our institutional mission.

Once the college defines its institutional-level SLOs, the college and individual programs will conduct an analysis of where those institutional SLOs are (s) supported by the program and conversely, whether the stated institutional aims reflect the aims of an academic program. The connection between college mission and SLOs is frequently through core competencies. A core competency is a skill, ability or knowledge that Barstow Community College wants its students to attain by the end of their college experience. For example, students who complete the GE requirements or receive an AA or AS degree from Barstow Community College should have mastered these core competencies. They typically include: critical thinking, written and oral communication competency, awareness and appreciation of human diversity and achievements, personal and social responsibility, intellectual curiosity, intellectual integrity and honesty, and professional development. The Barstow Community College institutional SLOs will be formulated to capture these desired core competencies. Individual academic programs will make their discipline-specific contribution to attaining these learning outcomes.
Section 3: Assessment Planning and Implementation

What You Can Expect

This section of the framework provides information on Barstow Community College’s approach to student learning outcomes assessment. This includes guiding principles which outline how Barstow intends to use assessment along with a philosophy of good assessment practices. Also included in this section is a table that provides a list of direct and indirect measures of student learning. This table is not intended to be an exhaustive list, but it is meant to be extensive enough to give you a wide variety of choices. Keep in mind that a balanced assessment will include both direct and indirect measures. The last part of this section includes an assessment plan template with a guideline for using the template and a sample assessment plan.
Barstow College Statement of Principles on Assessment
Adapted from Skyline College Statement of Principles on Assessment, 2005

WHY DO ASSESSMENT?
The Barstow Community College Mission Statement affirms the College’s commitment to "offering programs to prepare students in basic skills, career and technical education, lifelong learning opportunities, and comprehensive lower division courses that meet articulation agreements for student transfer to four-year colleges and universities," and “using institutional research to further develop courses, programs and services.” To carry out that commitment, Barstow will develop and continuously refine an institutional framework for assessing student learning and for using the results of such assessment to better serve our students.

WHAT IS ASSESSMENT?
By assessment we mean "the systematic collection, analysis, interpretation, and use of information to understand and improve teaching and learning…. Assessment is an ongoing process aimed at understanding and improving student learning. It involves making our expectations explicit and public; setting appropriate criteria and high standards for learning quality; systematically gathering, analyzing, and interpreting evidence to determine how well performance matches those expectations and standards; and using the resulting information to document, explain, and improve performance” (Angelo, p.7). To achieve these goals, assessment must be an ongoing, cyclical process requiring planning, execution, and evaluation and monitoring on a minimum of three levels: classroom, student services, divisional/programmatic, and institutional.

Barstow’s definition of assessment is informed by our commitment to Open Access: “We are committed to providing a learning environment that promotes critical thinking, communication, personal and professional responsibility, and global awareness by offering quality courses, programs, and support services. We are committed to fostering an innovative learning environment that respects the diversity of individual backgrounds, abilities, and cultures.”

WHAT IS ASSESSMENT FOR?
At Barstow, we will use assessment primarily to understand, and thereby improve, student learning. More specifically, assessment can serve the following roles in the institution:

- To provide improved feedback, guidance, and mentoring to students in order to help them better plan and execute their educational programs.
• To provide improved feedback about student learning to support faculty and staff in their work.
• To help design and modify programs to better promote learning, access, and student success.
• To improve student learning and development in classes, in programs, and across the college.
• To develop common definitions and benchmarks for important student abilities that will enable us to act more coherently and effectively to promote student learning.
• To help us understand how different groups of students experience the college differently so as to adapt our courses and programs to the needs and capacities of all students.
• To help us understand how our different courses and programs affect students over time and to better coordinate and sequence the students’ experience to produce deeper learning.

WHAT IS ASSESSMENT NOT FOR?

To clarify the nature of Barstow’s commitment to learning assessment, we will specify some of the possible purposes of assessment that we will exclude from our approach.

• We will not use assessment as an end in itself. Assessment that does not help us to promote student learning is a waste of time.
• We will not use assessment of student learning punitively or as a means of determining faculty or staff salaries or rewards. The purpose of assessment is to evaluate student learning, not to reward or punish faculty or staff. Specifically, the rate of achievement of student learning outcomes in any section or course may not be used in the evaluation of any specific faculty member.
• We will not use any single mode of assessment to arbitrarily determine program decisions.
• We will not use assessment in a way that will impinge upon the academic freedom or professional rights of faculty. Individual faculty members must continue to exercise their best professional judgment in matters of grading and discipline.
• We will not assume that assessment can answer all questions about all students. We need not directly assess all students in order to learn about the effectiveness of our programs and policies.
• We will not assume that assessment is quantitative. While numerical scales or rubrics (such as the four-point grading scale) can be useful, their accuracy always depends on the clear understanding of the concepts behind the numbers. Often the best indicator of student learning can be expressed better as a narrative or a performance than as a number.
• We will not use assessment only to evaluate the end of the student’s experience or merely to be accountable to outside parties. Assessment must be ongoing observation of what we believe is important; it must include both formative and summative data.
• We will not assume that assessment is only grading or testing.
• We will not use assessment to exclude students from access to our courses or programs, but will use information gained from assessment to improve student preparedness for effective learning in our programs.

WHO WILL DO ASSESSMENT?

Barstow’s faculty and staff, in consultation with the entire college community, will shape and design institutional assessment activities and will identify the core knowledge and skills that our students need to master. The faculty and staff will likewise develop benchmarks by which student progress can be evaluated. These will be ongoing processes, open to modification and improvement. Not all assessment need be done in individual classes, and not every faculty and staff members need assess all of the core learning.

HOW WILL WE USE ASSESSMENT?

The following guidelines will govern the methodology we will employ at Barstow for institutional assessment:
• We will always seek multiple judgments of student learning rather than a single measure.
• We will make our criteria for assessment explicit and public so that students can self assess and continuously improve their own performance.
• We will assess those skills and knowledge that our faculty, in consultation with the entire college community, judges to be important and valuable. This community may include transfer institutions and those who employ our graduates.
• We will assess the ongoing progress of students throughout their college experience.

Works Cited
Adapted from Skyline College http://www.smccd.edu/accounts/skysloac/resources/html, 2005
DIRECT AND INDIRECT MEASURES OF STUDENT LEARNING

Below is a table that provides a list of direct and indirect measures of student learning. This table is not intended to be an exhaustive list, but it is meant to be extensive enough to give a wide variety of choices. Keep in mind that a balanced assessment will include both direct and indirect measures.

Direct Measures are methods of collecting information about student learning that require students to display their knowledge, skills, and/or abilities. Direct measures often require a systematic scoring system that employs a rubric.

Indirect Measures are methods of collecting information about student learning that asks students (or others) to reflect on their learning rather than demonstrate it. Indirect measures often involve collecting opinions and perceptions from surveys and/or focus groups, as well as gathering pertinent statistics from department or college records.

<table>
<thead>
<tr>
<th>Level</th>
<th>Direct Measures</th>
<th>Indirect Measures</th>
</tr>
</thead>
</table>
| **Course** | Course and homework assignments  
Examinations and quizzes  
Term papers and reports  
Observations of field work, internship performance, or service learning  
Research projects  
Class discussion participation  
Case study analysis  
Rubric (rating scale) scores for writing, oral presentations, and performances  
Portfolios of student work  
Pre-test and Post-test  
Video/Audio tape evaluation  
Other: | Course evaluations  
Test blueprints (outlines of the concepts and skills covered on tests)  
Percent of class time spent in active learning  
Number of student hours spent on service learning  
Number of student hours spent on homework  
Number of student hours spent at intellectual or cultural activities related to the course  
Number of student hours spent in contact with faculty outside the classroom  
Other: |
| **Program** | Capstone projects, theses, exhibits, or performances  
Pass rates or scores on licensure, certification, or subject area tests  
Student publications or conference presentations  
Employer and internship supervisor ratings of students’ performance  
Other: | Focus group interviews  
Registration or course enrollment data  
Department or program review data  
Employer or alumni surveys  
Student perception surveys  
Proportion of upper-level courses relative to the same program at other institutions  
Job placement rates  
Number of faculty hours spent collaborating  
Internship evaluation  
Retention studies  
Transfer rates  
Graduation rate  
Course success rate  
Diversity statistics  
Other: |
<table>
<thead>
<tr>
<th>Level</th>
<th>Direct Measures</th>
<th>Indirect Measures</th>
</tr>
</thead>
</table>
| Institution| Performance on tests of writing, critical thinking, or general knowledge  
Rubric (grading scale) scores for class assignments in GE, interdisciplinary core courses, or other courses required by all students  
Performance on achievement tests  
Explicit self-reflections on what students have learned as a result of required community service or other experiences  
Other: __________________        | Locally-developed, commercial, or national surveys of student perceptions or self-report activities (e.g., National Survey of Student Engagement)  
Transcript studies that examine patterns and trends of course selection and grading  
Annual reports including institutional benchmarks  
Focus group evaluation  
Tracking Alumni honors/awards  
Retention studies  
Study abroad rates  
Transfer rates  
Graduation rate  
Course success rate  
Diversity statistics  
Job placement statistics  
Other: __________________            |
| Student Services| Locally developed tests  
National standardized tests (e.g. CCSEQ, LASSI)  
National licensure exam  
Pre and post tests  
Evaluation of student work samples (portfolios, capstone projects, etc.)  
Evaluation of student performance on a case case study or problem analysis  
Observation and evaluation of student behavior  
Externally reviewed internship  
Other: __________________ | Home grown or standardized surveys (mailed, online, phone)  
Focus groups  
Staff and student journals  
Academic performance after transfer  
Exit interviews  
Analysis of college or departmental records  
Usage rates  
Student Satisfaction studies  
Other: __________________ |
GUIDING QUESTIONS FOR DEVELOPING THE ASSESSMENT PLAN

There are several things to consider when creating your assessment plan. Once you have defined your intended SLO, it is important not only to identify who you will assess and which activity or assignment you will use, but also what type of instrument and methodology and the minimum acceptable performance. Once you have implemented your assessment, you may then use the results to discuss with your colleagues how the information will be used to make changes to the learning process.

Use the following guiding questions to move through the assessment planning process.

**Intended SLO**
1. What is the student expected to do and/or know at the end of the course or program of study?

**Assessment Approach, Major Assignment, Method and Criteria**
1. Who will be assessed (e.g. all sections, sampling of students across sections, selected sections) and how often?
2. Which major activity or assignment will be used for assessment (e.g. final exam, demonstration or project)?
3. Which measurement instrument(s) and methodology will be used to collect data on student progress or achievement of intended SLO (e.g. direct or indirect measures and quantitative or qualitative)?
4. What is the minimum performance expected or accepted?

**Outcome Results**
1. What are the results of the assessment?
2. How do the results compare to any baseline or benchmark data previously collected?

**Analysis & Action**
1. How will the results be used to inform teaching, learning and/or services?
2. How will you, your program or the institution follow up on the results?
3. Who will the results be shared with?
### SLOs and Assessment Plan Template

**Program (degree, certificate, pathways, service department etc)**: Culinary Arts Certificate of Achievement

**Participants**: Robert Millet

**Date**: January 22, 2011

<table>
<thead>
<tr>
<th>Level -1 – Intended Outcome</th>
<th>Level -2 – Assessment Task</th>
<th>Criteria /Expected Level of Achievement</th>
<th>Level -3 – Results of Assessment</th>
<th>Level -5 and 6 – Actions Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLO#1:</td>
<td>What:</td>
<td>Assessment Gathered:</td>
<td>Results:</td>
<td>Action:</td>
</tr>
<tr>
<td></td>
<td>How:</td>
<td>Rubric/Evaluation:</td>
<td>Key Findings:</td>
<td>Action Implementation:</td>
</tr>
<tr>
<td></td>
<td>Who:</td>
<td>Expected Achievement:</td>
<td>Conclusions:</td>
<td>Re-evaluation Date:</td>
</tr>
<tr>
<td></td>
<td>When:</td>
<td>Clients Included:</td>
<td></td>
<td></td>
</tr>
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<td></td>
<td>Where:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SLO#2</td>
<td>What:</td>
<td>Assessment Gathered:</td>
<td>Results:</td>
<td>Action:</td>
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<td>How:</td>
<td>Rubric/Evaluation:</td>
<td>Key Findings:</td>
<td>Action Implementation:</td>
</tr>
<tr>
<td></td>
<td>Who:</td>
<td>Expected Achievement:</td>
<td>Conclusions:</td>
<td>Re-evaluation Date:</td>
</tr>
<tr>
<td></td>
<td>When:</td>
<td>Clients Included:</td>
<td></td>
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</tbody>
</table>

Revised for clarity on November 30, 2010
### Appendix A:
#### CORE Competencies
**Critical Thinking / Communication / Global Awareness / Personal & Professional Development**

<table>
<thead>
<tr>
<th>PROGRAM: Associate of Arts – Humanities</th>
<th>PROGRAM: Associate of Arts – Social Science</th>
<th>PROGRAM: Associate of Science – Natural Science/Math</th>
<th>PROGRAM: Associate of Science – occ. majors &amp; certificates</th>
<th>PROGRAM: Basic Skills - -</th>
<th>PROGRAM: Transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department: Art</td>
<td>Department: Admin of Justice</td>
<td>Department: Math</td>
<td>CTE: Non-transfer, occupational major only -</td>
<td>Department: ASCK</td>
<td>Area A: (Communication) ENGL, PHIL, SPCH</td>
</tr>
<tr>
<td>Department: English</td>
<td>Department: Anthropology</td>
<td>Department: Biology</td>
<td>Associate of Science degree in one of the majors below: Accounting, Administration of Justice, Allied Health, Automotive Technology, Business, Child Development, Computer Science, Cosmetology, Electronics Technology, Fire Technology, Management, Medical Assistant, Physical Education, Photography, Residential Electrical, or Welding</td>
<td>Department: COMM</td>
<td>Area B: (Physical Universe) ANTH, ASTR, BIOL, CHEM, GEOG, GEOL, MATH, OCEA, OCEA, PHSC PHYS</td>
</tr>
<tr>
<td>Department: History</td>
<td>Department: Archeology</td>
<td>Department: Physical Science – Chemistry and Physics</td>
<td>Department: ESL</td>
<td>Department: English</td>
<td>Area C: (ARTS) ARTS, ENGL, HIST, HUMA MUSI, PHIL, PHOT, RLGS, SPAN, SPCH</td>
</tr>
<tr>
<td>Department: Humanities</td>
<td>Department: Business Admin</td>
<td>Department: Earth Science – Astronomy, Geology, Oceanography, Physical Science</td>
<td>Department: Math</td>
<td>Department: Math</td>
<td>Area D (Institutions &amp; Historical) - HIST, POLI</td>
</tr>
<tr>
<td>Department: Music</td>
<td>Department: Economics</td>
<td>Department: History</td>
<td>Department: Read</td>
<td>Department: Read</td>
<td>Area E (Lifelong Understanding) BIOL, HEAL, PSYC, SOCI, TART</td>
</tr>
<tr>
<td>Department: Philosophy</td>
<td>Department: Ethic Studies</td>
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<tr>
<td>Department: Photography</td>
<td>Department: Geography</td>
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<tr>
<td>Department: Religious Studies</td>
<td>Department: History</td>
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<tr>
<td>Department: Spanish</td>
<td>Department: Political Science</td>
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<tr>
<td>Department: Speech</td>
<td>Department: Psychology</td>
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<tr>
<td>Department: Theater Art</td>
<td>Department: Sociology</td>
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</tr>
</tbody>
</table>
# Appendix B:
Barstow College – Departmental Program Review Form
Course Level - Student Learning Outcomes

**Semester:** Fall / Spring / Summer  
**Year:**

Instructors involved in assessment:

<table>
<thead>
<tr>
<th>I</th>
<th>II</th>
<th>Course &amp; Instructor(s)</th>
<th>SLO #</th>
<th>Link to GEOs</th>
<th>Assessment Methods Used by Instructor(s)</th>
<th>Assessment Information</th>
<th>Summary of Data Collected</th>
<th>Implementation of Changes (if any)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>Course:</strong></td>
<td></td>
<td></td>
<td>Communication</td>
<td>Qualitative</td>
<td>Qualitative</td>
<td>Qualitative</td>
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<tr>
<td></td>
<td></td>
<td><strong>Instructor(s):</strong></td>
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<td></td>
<td>Critical Thinking</td>
<td>Quantitative</td>
<td>Quantitative</td>
<td>Quantitative</td>
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<tr>
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<td></td>
<td>Global Awareness</td>
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<td>All students</td>
<td>All students</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>Personal/ Professional Development</td>
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<th>SLO #</th>
<th>Link to GEOs</th>
<th>Assessment Methods Used by Instructor(s)</th>
<th>Assessment Information</th>
<th>Summary of Data Collected</th>
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## Appendix C:
Barstow College – Departmental Program Review Form

### Core Competencies

Because individual BCC courses contribute to one or more areas of the four Core Competencies, students completing programs at BCC will be able to:

<table>
<thead>
<tr>
<th>Communication</th>
<th>Critical Thinking and Questioning</th>
<th>Global Awareness</th>
<th>Personal and Professional Development</th>
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</thead>
<tbody>
<tr>
<td><strong>A. Write</strong></td>
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</tr>
<tr>
<td>1. Communicate thoughts, ideas, information, and messages in writing.</td>
<td>1. Analyze</td>
<td>A. <strong>Scientific Processes</strong></td>
<td>1. <strong>Self Awareness</strong>:</td>
</tr>
<tr>
<td>2. Compose and create documents, such as: letters, reports, memoranda, manuals and graphs with correct grammar, spelling, punctuation, and appropriate language, style and format.</td>
<td>2. Discover rules and apply them to solve problems.</td>
<td>2. The Scientific Method: Apply scientific processes to solve problems and measure and observe natural phenomena.</td>
<td>1. Accurately assess his/her own knowledge, skills, and abilities.</td>
</tr>
<tr>
<td>3. Check, edit, and revise written work for correct information, appropriate emphasis, form, style, and grammar.</td>
<td>3. Use logic to draw conclusions from information given.</td>
<td>2. Scientific Observation: Design, perform and analyze experiments and scientific observations.</td>
<td>2. Self-motivate and set realistic goals.</td>
</tr>
<tr>
<td><strong>B. Speak and/or Converse</strong></td>
<td>4. Differentiate between facts, influences, assumptions, and conclusions.</td>
<td>3. Interconnectivity: Analyze the major differences and connections between social, natural and physical sciences</td>
<td>3. Accept that taking feedback well is important to success.</td>
</tr>
<tr>
<td>1. Organize ideas and communicate verbal or non-verbal messages appropriate to the audience and the situation.</td>
<td><strong>A. Compute</strong></td>
<td><strong>B. Global Systems and Civics</strong></td>
<td>4. Respond appropriately to challenging situations.</td>
</tr>
<tr>
<td>2. Participate in conversations, discussions, and group activities.</td>
<td>1. Use basic numerical concepts, such as: whole numbers, percentages, estimates of math without a calculator.</td>
<td>1. <strong>Cultural</strong>: Interface with people from a variety of backgrounds and analyze different cultural beliefs and behaviors.</td>
<td><strong>B. Social and Physical Wellness</strong></td>
</tr>
<tr>
<td>3. Speak clearly and ask questions.</td>
<td>2. Use tables, graphs, charts, and diagrams to explain concepts or ideas.</td>
<td>2. Political, Social and Economic: Recognize important economic and political issues and values in one’s own community, state, country and the world.</td>
<td>1. Manage personal health and well being.</td>
</tr>
<tr>
<td><strong>C. Read</strong></td>
<td>3. Use basic geometrical shapes, such as: lines, angles, shapes, and space.</td>
<td>3. Environmental: Analyze the importance of the natural environment to human well being and the impact of human activity on the well being of global environmental systems.</td>
<td>2. Demonstrate appropriate social skills in group settings.</td>
</tr>
<tr>
<td>Comprehend and interpret various types of written information in (1) prose and in (2) documentation, such as manuals and graphs.</td>
<td><strong>C. Research</strong></td>
<td>4. Integrated Systems: Assess and analyze the interconnectivity between social, political, economic, and ecological systems and activities.</td>
<td><strong>C. Workplace Skills</strong>:</td>
</tr>
<tr>
<td><strong>D. Solve Problems</strong></td>
<td>1. Identify the need for information and data.</td>
<td>5. Action: Develop and evaluate strategies and plans for addressing global systems and civics issues.</td>
<td>1. Be dependable, reliable, and accountable.</td>
</tr>
<tr>
<td>1. Recognize whether a problem exists.</td>
<td>2. Obtain data from various sources.</td>
<td><strong>C. Artistic Variety</strong></td>
<td>2. Meet deadlines and complete tasks.</td>
</tr>
<tr>
<td>2. Identify components of the problem or issue.</td>
<td>3. Organize, process, and maintain records of the information collected.</td>
<td>1. Arts awareness: Assess the visual arts, dance, music and literature of one or many cultures.</td>
<td>3. Maintain a professional attitude.</td>
</tr>
<tr>
<td>3. Create a plan of action to resolve the issue.</td>
<td>4. Analyze the information for relevance and accuracy.</td>
<td>2. Critical Analysis: Analyze the methods used to create art and interpret its literal and/or symbolic meaning.</td>
<td>4. Work as a productive member of a team.</td>
</tr>
<tr>
<td>4. Monitor, evaluate, and revise when necessary.</td>
<td>5. Synthesize, evaluate and communicate the results.</td>
<td>3. Creativity: Engage in artistic creative endeavors.</td>
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# Rubric for Evaluating Institutional Effectiveness – Part I: Program Review

(See cover letter for how to use this rubric)

<table>
<thead>
<tr>
<th>Levels of Implementation</th>
<th>Characteristics of Institutional Effectiveness in Program Review (Sample institutional behaviors)</th>
</tr>
</thead>
</table>
| Awareness                | • There is a preliminary investigative dialogue at the institution or within some departments about what data or process should be used for program review.  
                          | • There is exploration of program review models by various departments or individuals.  
                          | • The college is implementing pilot program review models in a few programs/operational units. |
| Development              | • Program review is embedded in practice across the institution using qualitative and quantitative data to improve effectiveness.  
                          | • Dialogue about the results of program review is evident within the program as part of discussion of program effectiveness.  
                          | • Leadership groups throughout the institution accept responsibility for program review framework development (Senate, Admin. Etc.)  
                          | • Appropriate resources are allocated to conducting program review of meaningful quality.  
                          | • Development of a framework for linking results of program review to planning for development.  
                          | • Development of a framework to align results of program review to resource allocation. |
| Proficiency              | • Program review processes are in place and implemented regularly.  
                          | • Results of all program reviews are integrated into institution-wide planning for improvement and informed decision-making.  
                          | • The program review framework is established and implemented.  
                          | • Dialogue about the results of all program reviews is evident throughout the institution as part of discussion of institutional effectiveness.  
                          | • Results of program review are clearly and consistently linked to institutional planning processes and resource allocation processes; college can demonstrate or provide specific examples.  
                          | • The institution evaluates the effectiveness of its program review processes in supporting and improving student achievement and student learning outcomes. |
| Sustainable Continuous Quality Improvement | • Program review processes are ongoing, systematic and used to assess and improve student learning and achievement.  
                                            | • The institution reviews and refines its program review processes to improve institutional effectiveness.  
                                            | • The results of program review are used to continually refine and improve program practices resulting in appropriate improvements in student achievement and learning. |

sc: 5/25/2011
## Appendix E

**Accrediting Commission for Community and Junior Colleges**  
**Western Association of Schools and Colleges**  

### Rubric for Evaluating Institutional Effectiveness – Part II: Planning

*(See cover letter for how to use this rubric)*

<table>
<thead>
<tr>
<th>Levels of Implementation</th>
<th>Characteristics of Institutional Effectiveness in Planning</th>
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<tr>
<td><strong>Awareness</strong></td>
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</table>
  • The college has preliminary investigative dialogue about planning processes.  
  • There is recognition of case need for quantitative and qualitative data and analysis in planning.  
  • The college has initiated pilot projects and efforts in developing systematic cycle of evaluation, integrated planning and implementation (e.g. in human or physical resources).  
  • Planning found in only some areas of college operations.  
  • There is exploration of models and definitions and issues related to planning.  
  • There is minimal linkage between plans and a resource allocation process, perhaps planning for use of “new money.”  
  • The college may have a consultant-supported plan for facilities, or a strategic plan. |
| **Development**          |  
  • The Institution has defined a planning process and assigned responsibility for implementing it.  
  • The Institution has identified quantitative and qualitative data and is using it.  
  • Planning efforts are specifically lined to institutional mission and goals.  
  • The Institution uses applicable quantitative data to improve institutional effectiveness in some areas of operation.  
  • Governance and decision-making processes incorporate review of institutional effectiveness in mission and plans for improvement.  
  • Planning processes reflect the participation of a broad constituent base. |
| **Proficiency**          |  
  • The college has a well documented, ongoing process for evaluating itself in all areas of operation, analyzing and publishing the results and planning and implementing improvements.  
  • The institutions component plans are integrated into a comprehensive plan to achieve broad educational purposes and improve institutional effectiveness.  
  • The institution effectively uses its human, physical, technology, and financial resource to achieve its broad educational purposes, including stated student learning outcomes.  
  • The college has documented assessment results and communicated matters of quality assurance to appropriate constituencies (documents data and analysis of achievement of its educational mission).  
  • The institution assesses progress toward achieving its education goals over time (uses longitudinal data and analyses).  
  • The institution plans and effectively incorporates results of program review in all areas of educational services: instruction, support services, library and learning resources. |
| **Sustainable Continuous Quality Improvement** |  
  • The institution uses ongoing and systematic evaluation and planning to refine its key processes and improve student learning.  
  • There is dialogue about institutional effectiveness that is ongoing, robust and pervasive; data and analyses are widely distributed and used throughout the institution.  
  • There is ongoing review and adaptation of evaluation and planning processes.  
  • There is consistent and continuous commitment to improving student learning; and educational effectiveness is a demonstrable priority in all planning structures and processes. |

*sc: 5/25/2011*
### Levels of Implementation

<table>
<thead>
<tr>
<th>Characteristics of Institutional Effectiveness in Student Learning Outcomes</th>
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<td><strong>Updated May 2011 (Sample institutional behaviors)</strong></td>
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#### Awareness
- There is preliminary, investigative dialogue about student learning outcomes.
- There is recognition of existing practices such as course objectives and how they relate to student learning outcomes.
- There is exploration of models, definitions, and issues taking place by a few people.
- Pilot projects and efforts may be in progress.
- The college has discussed whether to define student learning outcomes at the level of some courses or programs or degrees; where to begin.

#### Development
- College has established an institutional framework for definition of student learning outcomes (where to start), how to extend, and timeline.
- College has established authentic assessment strategies for assessing student learning outcomes as appropriate to intended course, program, and degree learning outcomes.
- Existing organizational structures (e.g. senate, Curriculum Committee) are supporting strategies for student learning outcomes definition and assessment.
- Leadership groups (e.g. Academic Senate and administration), have accepted responsibility for student learning outcomes implementation.
- Appropriate resources are being allocated to support student learning outcomes and assessment.
- Faculty and staff are fully engaged in student learning outcomes development.

#### Proficiency
- Student learning outcomes and authentic assessment are in place for courses, programs and degrees.
- There is widespread institutional dialogue about the results of assessment and identification of gaps.
- Decision-making includes dialogue on the results of assessment and is purposefully directed toward aligning institution-wide practices to support and improve student learning.
- Appropriate resources continue to be allocated and fine-tuned.
- Comprehensive assessment reports exist and are completed and updated on a regular basis.
- Course student learning outcomes are aligned with degree student learning outcomes.
- Students demonstrate awareness of goals and purposes of courses and programs in which they are enrolled.

#### Sustainable Continuous Quality Improvement
- Student learning outcomes and assessment are ongoing, systematic and used for continuous quality improvement.
- Dialogue about student learning is ongoing, pervasive and robust.
- Evaluation of student learning outcomes processes.
- Evaluation and fine-tuning of organizational structures to support student learning is ongoing.
- Student learning improvement is a visible priority in all practices and structures across the college.
- Learning outcomes are specifically linked to program reviews.
Appendix G:

Blooms Taxonomy – Wheel

Benjamin Bloom created a taxonomy of measurable verbs to help us describe and classify observable knowledge, skills, attitudes, behaviors and abilities. The theory is based upon the idea that there are levels of observable actions that indicate something is happening in the brain (cognitive activity.) By creating learning objectives using measurable verbs, you indicate explicitly what the student must do in order to demonstrate learning.

Verbs that demonstrate **Critical Thinking**
Appendix H:  
Definition of Terms

**Accommodations**: Modifications in the way assessments are designed or administered to create fair testing conditions for students with learning disabilities. Students are entitled to accommodations after documenting their disabilities through DSP&S.

**Active Learning**. Active learning is an approach in which students are participating in learning beyond passively absorbing knowledge such as in a didactic session. Actively learning students solve problems, apply knowledge, work with other students, and engage the material to construct their own understanding and use of the information. Examples of active learning methods include those methods where deeper thinking and analysis are the responsibility of the student, and the faculty member acts as a coach or facilitator to achieve specified outcomes. Examples of active learning include inquiry-based learning, case-study methods, project development, modeling, collaborative learning, problem-based learning, brainstorming, and simulations.

**Analytic Scoring**: Evaluating student work across multiple dimensions of performance rather than from an overall impression (holistic scoring). In analytic scoring, individual scores for each dimension are scored and reported. For example, analytic scoring of a history essay might include scores of the following dimensions: use of prior knowledge, application of principles, use of original source material to support a point of view, and composition. An overall impression of quality may be included in analytic scoring.

**Anchor** : A sample of student work that exemplifies a specific level of performance. Raters use anchors to score student work, usually comparing student performance to the anchor. For example, if student work was being scored on a scale of 1-5, there would typically be anchors (previously scored student work), exemplifying each point on the scale.

**Assessment**. Assessment refers to methods used by a faculty member, department, program or institution to generate and collect data for evaluation of processes, courses, and programs with the ultimate purpose of evaluating overall educational quality and improving student learning. Results of assessment may include both quantitative and qualitative data.

**Attitudinal Outcomes**. These outcomes relate to development of certain values or changes in beliefs, often through questionnaires.

**Authentic Assessment**. Authentic Assessment evaluates students’ ability to use their knowledge and to perform tasks that approximate those found in the work place or other
venues outside the classroom. Designed to allow students to actively demonstrate what they know rather than recognize or recall answers to questions.

**Basic Skills:** below college-level reading, writing, ESOL, mathematics, and student success skills: any skill, ability, or understanding that is necessary for students to succeed at college-level courses.

**Benchmark:** A detailed description of a specific level of student performance expected of students at particular stages or development levels. Benchmarks are often represented by samples of student work. A set of benchmarks can be used as "checkpoints" to monitor progress toward meeting performance goals within and across levels.

**Classroom Assessment Techniques (CAT).** CATs are “simple tools for collecting data on student learning in order to improve it” (*Classroom Assessment Techniques*, Angelo & Cross, 1993, p. 26). CATs are short, flexible, classroom techniques that provide rapid, informative feedback to improve classroom dynamics by monitoring learning, from the student’s perspective throughout the semester.

**Classroom-based Assessment.** Classroom-based assessment is the formative and summative evaluation of student learning within a single course. This assessment involves evaluating the curriculum as designed, taught, and learned. It entails the collection of data aimed at measuring successful learning in the individual course and improving instruction with a goal to improving learning.

**Core Competencies.** A core competency is a skill, ability or knowledge that students should attain by the end of a course, program or set of services. This may include: critical thinking, written and oral communication, awareness of human diversity and personal and social responsibility.

**Criteria.** Guidelines, rules, characteristics, or dimensions that are used to judge the quality of student performance. Criteria indicate what we value in student responses, products or performances. They may be holistic, analytic, general, or specific.

**Criterion-based Assessments.** Instructors evaluate or score such assessment using a set of criteria to appraise work. Criterion-referenced evaluation is based on proficiency, not subjective measures such as improvement.

**Direct Measures.** Methods of collecting information about student learning that require students to display their knowledge, skills, and/or abilities. Direct measures often require a systematic scoring system that employs a rubric.
**Embedded Assessment.** Embedded assessment occurs within the regular class or curricular activity. Class assignments linked to student learning outcomes through primary trait analysis serve as grading and assessment instruments. Individual questions on exams can be embedded in numerous classes to provide departmental, program, or institutional assessment information.

**Evidence of Performance.** Quantitative or qualitative, direct or indirect data that provide information concerning the extent to which a course, program, student service and institution meet their established and publicized goals.

**Equity.** The extent to which an institution or program achieves a comparable level of outcomes, direct and indirect, for various groups of enrolled students; the concern for fairness, i.e., that assessments are free from bias or favoritism. An assessment that is fair enables all students to show what they know or can do.

**Formative Assessment.** Formative assessment generates useful feedback for development and improvement. The purpose is to provide an opportunity to perform and receive guidance (such as in-class assignments, quizzes, discussion, lab activities, etc.) that will improve or shape a final performance. See Summative assessment.

**Holistic Scoring.** A scoring process in which a score is based on an overall assessment of a finished product that is compared to an agreed-upon standard for that task.

**Homegrown or Local Assessment.** This type of assessment is developed and validated for a specific purpose, course, or function and is usually criterion-referenced to promote validity, e.g. a department placement or exit exam. See Standardized Assessment.

**Indirect Assessment.** Methods of collecting information about student learning that asks students (or others) to reflect on their learning rather than demonstrate it. Indirect measures often involve collecting opinions and perceptions from surveys and/or focus groups, as well as gathering pertinent statistics from department or college records.

**Information Competency.** Information competency is the ability to access, analyze, and determine the reliability of information on a given topic.

**Likert Scale.** The Likert scale assigns a numerical value to responses in order to quantify subjective data. The responses are usually along a continuum such as responses of strongly disagree, disagree, neutral, agree, or strongly agree and are assigned values such as 1-5.
Metacognition. Metacognition is the act of thinking about one's own thinking and regulating one's own learning. It involves critical analysis of how decisions are made. Vital material is consciously learned and acted upon.

Norming. The process of educating raters to evaluate student work and produce dependable scores. Typically, this process uses anchors to acquaint raters with criteria and scoring rubrics. Open discussions between raters and the trainer help to clarify scoring criteria and performance standards, and provide opportunities for raters to practice applying the rubric to student work. Rater training often includes an assessment of rater reliability that raters must pass in order to score actual student work.

Norm-referenced Assessment. An assessment where student performance or performances are compared to a larger group. Usually the larger group or "norm group" is a national sample representing a wide and diverse cross-section of students. Students, schools, districts, and even states are compared or rank ordered in relation to the norm group. The purpose of a norm-referenced assessment is usually to sort students and not to measure achievement towards some criterion of performance.

Performance-based Assessment (also known as Authentic Assessment). Items or tasks that require students to apply knowledge in real-world situations.

Placement Testing. The process of assessing the basic skills proficiencies or competencies of entering college students.

Primary Trait Analysis (PTA). PTA is the process of identifying major traits or characteristics that are expected in student work. After the primary traits are identified, specific criteria with performance standards are defined for each trait.

Portfolio. A representative collection of a student's work, including some evidence that the student has evaluated the quality of his or her own work.

Program Assessment. Assessing the student learning outcomes or competencies of students in achieving a certificate/degree beyond basic skills and general education.

Program Review. A process of systematic evaluation of multiple variables of effectiveness and assessment of student learning outcomes of an instructional or student services program.

Prompt. A short statement or question that provides students a purpose for writing; also used in areas other than writing.
**Qualitative Data.** Qualitative data are data collected as descriptive information, such as a narrative or portfolio. These types of data, often collected in open-ended questions, feedback surveys, or summary reports, are more difficult to compare, reproduce, and generalize. They are bulky to store and to report; however, they can offer insightful information, often providing potential solutions or modifications in the form of feedback. Qualitative data, such as opinions, can be displayed as numerical data by using Likert-scaled responses that assigns a numerical value to each response (e.g. 5 = strongly agree to 1 = strongly disagree).

**Quantitative Data.** Quantitative data objectively measures a quantity (i.e. number) such as students' scores or completion rates. These data are easy to store and manage; they can be generalized and reproduced but have limited value due to the rigidity of the responses and must be carefully constructed to be valid.

**Reliability.** Reliability refers to the reproducibility of results over time or a measure of the consistency when an assessment tool is used multiple times. In other words, if the same person took a test five times, the data should be consistent. This refers not only to reproducible results from the same participant but also to repeated scoring by the same or multiple evaluators.

**Rubric.** A rubric is a set of criteria used to determine scoring for an assignment, performance, or product. Rubrics may be holistic, providing general guidance, or analytical, assigning specific scoring point values. Descriptors provide standards for judging the work and assigning it to a particular place on the continuum.

**Standardized Assessments.** Assessments developed through a consistent set of procedures for designing, administering, and scoring. The purpose of standardization is to assure that all students are assessed under the same conditions so that their scores have the same meaning and are not influenced by differing conditions.

**Student Learning Outcomes (SLO).** An SLO is a clear statement of what a student should learn and be able to demonstrate upon completing a course or program. It describes the assessable and measurable knowledge, skills, abilities or attitudes that students should attain by the end of a learning process.

**Summative Assessment.** A summative assessment is a final determination of knowledge, skills, and abilities. This could be exemplified by exit or licensing exams, senior recitals, or any final evaluation that is not created to provide feedback for improvement but is used only for final judgments. A midterm exam may fit in this category if it is the last time the student has an opportunity to be evaluated on specific material. See Formative assessment.
**Validity.** The extent to which an assessment measures what it is supposed to measure. A valid standards based assessment is aligned with the *standards* intended to be measured, provides an accurate and reliable estimate of students' performance relative to the standard, and is fair.

Adapted from:
http://online.bakersfieldcollege.edu/courseassessment/Definitions.htm
http://cresst96.cse.ucla.edu/CRESST/pages/media.htm
http://www.losmedanos.net/groups/research/assessmenthandbook.pdf
Appendix I:
Nine Principles of Good Practice for Assessing Student Learning
Authors: American Association for Higher Education (AAHE)

1. **The assessment of student learning begins with educational values.**
   Assessment is not an end in itself but a vehicle for educational improvement. Its effective practice, then, begins with and enacts a vision of the kinds of learning we most value for students and strive to help them achieve. Educational values should drive not only what we choose to assess but also how we do so. Where questions about educational mission and values are skipped over, assessment threatens to be an exercise in measuring what's easy, rather than a process of improving what we really care about.

2. **Assessment is most effective when it reflects an understanding of learning as multidimensional, integrated, and revealed in performance over time.**
   Learning is a complex process. It entails not only what students know but what they can do with what they know; it involves not only knowledge and abilities but values, attitudes, and habits of mind that affect both academic success and performance beyond the classroom. Assessment should reflect these understandings by employing a diverse array of methods, including those that call for actual performance, using them over time so as to reveal change, growth, and increasing degrees of integration. Such an approach aims for a more complete and accurate picture of learning, and therefore firmer bases for improving our students' educational experience.

3. **Assessment works best when the programs it seeks to improve have clear, explicitly stated purposes.**
   Assessment is a goal-oriented process. It entails comparing educational performance with educational purposes and expectations -- those derived from the institution's mission, from faculty intentions in program and course design, and from knowledge of students' own goals. Where program purposes lack specificity or agreement, assessment as a process pushes a campus toward clarity about where to aim and what standards to apply; assessment also prompts attention to where and how program goals will be taught and learned. Clear, shared, implementable goals are the cornerstone for assessment that is focused and useful.

4. **Assessment requires attention to outcomes but also and equally to the experiences that lead to those outcomes.**
   Information about outcomes is of high importance; where students "end up" matters greatly. But to improve outcomes, we need to know about student experience along the
way -- about the curricula, teaching, and kind of student effort that lead to particular outcomes. Assessment can help us understand which students learn best under what conditions; with such knowledge comes the capacity to improve the whole of their learning.

5. **Assessment works best when it is ongoing not episodic.**
Assessment is a process whose power is cumulative. Though isolated, "one-shot" assessment can be better than none, improvement is best fostered when assessment entails a linked series of activities undertaken over time. This may mean tracking the process of individual students, or of cohorts of students; it may mean collecting the same examples of student performance or using the same instrument semester after semester. The point is to monitor progress toward intended goals in a spirit of continuous improvement. Along the way, the assessment process itself should be evaluated and refined in light of emerging insights.

6. **Assessment fosters wider improvement when representatives from across the educational community are involved.**
Student learning is a campus-wide Beta Version Page 60 responsibility, and assessment is a way of enacting that responsibility. Thus, while assessment efforts may start small, the aim over time is to involve people from across the educational community. Faculty plays an especially important role, but assessment's questions can't be fully addressed without participation by student affairs educators, librarians, administrators, and students. Assessment may also involve individuals from beyond the campus (alumni/ae, trustees, employers) whose experience can enrich the sense of appropriate aims and standards for learning. Thus understood, assessment is not a task for small groups of experts but a collaborative activity; its aim is wider, better-informed attention to student learning by all parties with a stake in its improvement.

7. **Assessment makes a difference when it begins with issues of use and illuminates questions that people really care about.**
Assessment recognizes the value of information in the process of improvement. But to be useful, information must be connected to issues or questions that people really care about. This implies assessment approaches that produce evidence that relevant parties will find credible, suggestive, and applicable to decisions that need to be made. It means thinking in advance about how the information will be used, and by whom. The point of assessment is not to gather data and return "results"; it is a process that starts with the questions of decision-makers, that involves them in the gathering and interpreting of data, and that informs and helps guide continuous improvement.
8. **Assessment is most likely to lead to improvement when it is part of a larger set of conditions that promote change.**

Assessment alone changes little. Its greatest contribution comes on campuses where the quality of teaching and learning is visibly valued and worked at. On such campuses, the push to improve educational performance is a visible and primary goal of leadership; improving the quality of undergraduate education is central to the institution's planning, budgeting, and personnel decisions. On such campuses, information about learning outcomes is seen as an integral part of decision making, and avidly sought.

9. **Through assessment, educators meet responsibilities to students and to the public.**

There is a compelling public stake in education. As educators, we have a responsibility to the public that support or depend on us to provide information about the ways in which our students meet goals and expectations. But that responsibility goes beyond the reporting of such information; our deeper obligation --to ourselves, our students, and society-- is to improve. Those to whom educators are accountable have a corresponding obligation to support such attempts at improvement.

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