PROGRAM LEARNING OUTCOMES
ASSESSMENT LA Southwest College
October 14, 2010

I. The Role of Program SLOs in Program Review

1. Where do you think LASC is on the ACCJC Program Review and SLO rubrics? Where does Program-level SLO assessment integrate with Program Review?

9.05 S10 Embedding Program SLOs in Program Review
Don Gauthier, Los Angeles Valley College, Area C

Whereas, Program student learning outcomes (SLO) assessment data are useful to inform program review;

Whereas, Examples of using Program SLO assessment are provided in the adopted Academic Senate paper Program Review: Setting a Standard (Spring 2009);

Whereas, Effective practice with program SLO assessment embeds the process within the existing process of program review in order to reduce workload and to link learning outcomes to budget and planning decisions; and

Whereas, The recommendations of the 2010 Spring regional SLO coordinators meeting highly supported embedding program SLO assessment in program review processes and supported a resolution to encourage local colleges to consider this as a viable means to both reduce workload and link outcomes assessment work to budgeting and planning decisions;

Resolved, That the Academic Senate for California Community Colleges encourage local senates to consider embedding program student learning outcomes assessment in program review processes.

MSC Disposition: Local Senates
Assigned: President, Accreditation and SLO Committee

**Look at the LASC SLO matrix indicating where course SLOs overlap with PLOs.**
“Educational assessment includes all of the data-gathering and evaluative processes that allow us to understand teaching and learning.” (Tanner, 2001. Assessing Academic Achievement, p. 17)

ACCJC-WASC defines assessment as the “methods that an institution employs to gather evidence and evaluate quality.” (ACCJC-WASC Commission 2002 Standards, p. 29)

There are four overarching principles to guide the purposes of assessment.

- Assessment is a **collaborative, dynamic, and continuous** process to improve courses, degrees and certificates and programs. It is in the dialogue among professionals where the seeds of true institutional improvement are sown.

- There is a considerable difference between using data for accountability and using it for institutional improvement. While there is a call for accountability by the public, accrediting agencies and federal and state governments, the onus is on the institutions to evaluate themselves to assure quality education for our respective communities and to place value on improvement through reflection on assessment data.

- The **focus on learning is the goal of teaching, research and educational leadership.** All professionals who interact with students play a critical role in the way students learn and develop as individuals.

- Assessment is **integrated in our daily classroom and service practices** and not something over and above what we already do. The solution lies in striking a balance between making the process thoughtful and meaningful rather than simplistic and compliant while still dealing with the reality of our already taxed workloads.
The SLO Assessment Process

1. Reflection and research on course or program outcomes
2. Clearly defined, measureable student learning outcomes
3. Carefully designed & conducted assessment
4. Analysis of Assessment Data
5. Assessment Report
6. Improved Practice

Closing the Assessment Loop

Develop, modify, or review a curriculum, course, program, or service.

Design & Measure Student Learning as a result of the Curriculum, Course, or Program.

Collect, discuss, and analyze data.

Determine refinements based on outcomes data.
II. EFFECTIVE Program-level Outcomes

Some Criteria for Quality SLOs

While some SLOs may be shared with other courses, other SLOs may be unique to an individual course. The criteria for a good SLO are relatively general and dependent upon discipline specificity and good faculty dialogue.

1. Does the SLO include active verbs?
2. Is the SLO measurable?
3. Do the SLOs address outcomes in the cognitive, psychomotor, and affective areas if applicable?
4. Does the SLO address the expected level of learning for the course using Bloom’s Taxonomy as a guideline?
5. Is the SLO written as an outcome rather than an objective?
   - Language indicates an important overarching concept versus small lesson or chapter objectives.
   - Outcomes address what a student will be able to do at the completion of the course.
   - SLOs address student competency rather than content coverage.
6. Is the SLO appropriate for the course?
   - Consistent with the curriculum document of record
   - Represents a fundamental result of the course
   - Aligns with other courses in a sequence, if applicable
   - Represents collegiate level work
7. Will students understand this SLO?
8. Have you addressed external outcomes relevant to this course of study?
9. Have you considered other colleges or external standards important to this course or program?
Comprehensive Program SLOs Address the Cognitive, Psychomotor, Affective Domains

Bloom (1948) developed classifications of intellectual behavior and learning in order to identify and measure progressively sophisticated learning.

- Three domains of learning are recognized:
  - the cognitive domain (Bloom’s Taxonomy, 1956) defining knowledge classification
  - the psychomotor domain (Gronlund, 1970; Harrow, 1972; Simpson, 1972) defining physical skills or tasks classification
  - the affective domain (Krathwhol, Bloom, and Masia, 1964) defining behaviors that correspond to attitudes and values

- Student learning outcomes should address relevant outcomes for each of these domains but must be appropriate to the course and program.

- Affective outcomes tend to be the hardest to articulate initially but often represent the outcomes most closely related to deeper thinking and life-long learning. They also often line up with real world concerns – such as honesty, professionalism, etc

Interrelationships between Bloom’s cognitive levels

Knowledge
- The ability to recall what has been learnt

Comprehension
- The ability to show a basic understanding

Application
- The ability to apply learning to a new or novel task

Analysis
- The ability to break up information logically

Synthesis
- The ability to create something new

Evaluation
- The ability to evaluate usefulness for a purpose

Program Goal
Overall focus for the program

Program Objectives
assess nuts and bolts of a program as determined by professional organization and standards or advisory groups.

Program Content
Pre-requisite Courses, Program Course of Study

Program Components
Listing of program requirements for degree or certificate

Programmatic Student Learning Outcomes
Assess higher level integrated abilities, knowledge, and skills. Assess observables that a student can DO at the end of a course of study.

Use licensure exam results, project, capstone course, standardized test, program exam, performance, product, alumni and employer feedback etc.
Program SLOs

- Program vision, mission, and goals
- Student needs and goals
- Parent institution mission vision and goals
- Related professional expectations
- Community expectations

Overlapping Course SLOs Become Program SLOs

Course SLOs

Course SLOs

Course SLOs

Course SLOs
Aligning Courses to Program SLOs

In the same way that we created a matrix in section 5 to evaluate our course activities with regards to SLOs, it is helpful to create a course matrix for the program SLOs.

After writing the Program SLOs, an analysis of where those SLOs are formatively (F) and summatively (S) addressed are plotted in a matrix.

<table>
<thead>
<tr>
<th>Course</th>
<th>SLO1</th>
<th>SLO2</th>
<th>SLO3</th>
<th>SLO4</th>
<th>SLO5</th>
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<tr>
<td>Math D</td>
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<tr>
<td>Chemistry 11</td>
<td>F</td>
<td>F</td>
<td>F</td>
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<td>Biology 14</td>
<td>F</td>
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<td>F</td>
<td>F</td>
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<td>Biology 15</td>
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<td>S</td>
<td>F</td>
<td>S</td>
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<tr>
<td>Biology 16</td>
<td>S</td>
<td>S</td>
<td></td>
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<td>S</td>
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<tr>
<td>Medical Terminology</td>
<td>F</td>
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Examining SLOs using a matrix ensures that students have been introduced to the outcome, had formative feedback, and are summatively assessed concerning successful student learning. This process is somewhat more complicated when looking at GE outcomes across many disciplines, but essential.

Can you identify potential problems inherent in this matrix?

Comments:

1. Although math is a requirement for this pathway, and necessary for chemistry and biology, the material is either not necessary or not relevant to any SLO for the program. This does not necessarily mean that math does not belong in the program, but the content should be reassessed. Perhaps students could demonstrate a math competency without taking the course. Perhaps the program needs to look at the prerequisite rationale and incorporate more aspects requiring math skills into the other courses. The linkage of the program pre-requisites need to be re-examined in light of the SLOs. If math is a necessary aspect of the pre-allied health skills, then the SLOs may need to be revised.

2. SLO 2 is never formatively assessed. If the students are not given an opportunity to develop this outcome with feedback to improve, then it may not be the outcome of THIS program.

3. SLO 1 and SLO 5 have an odd sequence for assessment if these courses are in the typical order in which they are taken by students. It is useless to formatively assess a student once the final or summative assessment has occurred. The program should examine the sequence of courses to determine if Medical Terminology belongs earlier in the sequence.
4. Biology 16 appears to summatively assess several of the SLOs. The department may want to consider the creation of a capstone course, or capstone project as a program assessment technique.

Draw a Matrix with the courses in your program and the PLOs. Determine which courses will meet which outcome formatively (F) and summatively (S).

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<tr>
<th>Program SLOs</th>
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III. **Identifying Quality Program-level Outcomes.** Course-level SLO comparisons  

*Guided Inquiry* (Small group work)  

a. Benchmarking your current status  

Look at the ACCJC Rubrics in the Appendix of this Workbook. Where is LASC and where is your program?  

b. Prerequisite or post-programmatic expectations integration  

*Guided Inquiry* (Small group work)  

- List the incoming expectations for this program and any conditions of enrollment.  
- What other programs might be fed by this program that might have expectations for your program’s outcomes? (e.g., biology feeds nursing)  

c. External expectations  

*Guided Inquiry* (Small group work)  

- Are there any external requirements for this program? (e.g., nursing board or ACS auto requirements)  

d. Special issues for CTE  

*Guided Inquiry* (Small group work)  

- Are there any reasonable benchmarks that should be considered – standardized testing or licensing pass rates, jobs, etc?  

e. Course-level SLO comparisons  

*Guided Inquiry* (Small group work)  

- Where do your course-level outcomes overlap within a program?  
- Evaluate the course SLO that represents a PLO for quality. Do you need to modify this PLO before moving on to assessment considerations?  

Linkage of course outcomes to program and institutional level outcomes is essential. See in the connection between the class work and results as linked to the program outcomes are essential, although not conversations we commonly have. When faculty are able to articulate outcomes and develop assessment practices in their favorite courses they are equipped to
apply this same expertise at program and institutional level assessment. Program assessment is a more comprehensive endeavor and must be clearly focused on learning to produce improvement, rather than a report of the program details and descriptions (these are the focus in program review). PLOs should include real world expectations of graduates in an area of focused study or activity including employers concerns, transfer institution concerns and professional experts’ expectations in the field of study.

**Connecting Program SLOs with Current Classroom or Program Activities**

Articulating the program goals, and coordinating the appropriate course SLOs, are important foundations in finalizing draft program SLOs. It is also important to consider external requirements or expectations after a program or course of study. This would include an analysis of: 1) the community or employer expectations, 2) professional standards and expectations, 3) alignment between course, program, and institutional outcomes, 4) student expectations and needs, and transfer institution expectations 5) and the mission statement or purpose for the program as it relates to the institution.

The goal is to explicitly state overarching outcomes that represent skills, knowledge, and abilities the students attain as a result of the program of study. This may include activities beyond course work (field trips, internships, volunteer experiences). Once again the SLO checklist should be useful. See the figure below.

1. Here each group should
2. This assessment should be either sampled across all program sections or given by each faculty in each section.
3. This is a comparison of learning across the program.
4. You may have students at different stages in the program

Consider any similar assignments, exams assessments done by faculty or staff in the program that provide information about learning and teaching. Are there any existing assessment that would work as a program assessment?
IV. Identifying the data that reflects successful outcomes
What kinds of data need to be collected to analyze whether the outcomes were met?
a. Data Types (e.g., direct and indirect, qualitative and quantitative) - What type of data would be most useful? (Refer to Data 101)
What kind of Data may indicate these outcomes have been met?

V. Assessment Methods. Reference to assessment methods options in the workbook & assessment tools
Consider current assessments used in the course or program. Are there any?
Consider other tools to assess the PLOs. What tools would best assess competency?

How will you implement this assessment?

f. Planning the assessment data collection and discussion venues

How and where will you collect this data?

When and where will you discuss the data?

How might you use this information to address teaching and learning?

Creating Venues for Dialogue
Assess what things work well on your campus and then create venues that are a good fit for your campus culture, values, and facilities
- Inviting in Outside Speakers
- Use department meetings
- Lunch meetings
- Use discussions at various committees integrated in the assessment process - program review, curriculum, institutional effectiveness etc.
- Send people for training – have round tables to share what they have learned
• Take advantage of opening days or convocations to get the same message to everyone
• Create team teaching opportunities
• Cross disciplinary workshops
• Campus-wide audits with facilitated meetings
• Campus-wide workshops directed at your campus needs

As you talk to others about SLO assessment keep these things in mind:
✓ Each course and classroom 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

Mixing up departments and participants to produce cross pollination
✓ Don’t forget to include student services with instruction – sometimes the best ideas come from combining knowledge and experience from a holistic student viewpoint
✓ Accreditation standards clearly say anyone responsible for student learning should be part of SLO assessment – include administrators and classified where appropriate too

Part-time Faculty and others
✓ How best to involve Part-time faculty – that means scheduling meetings when they can be there
✓ Make it worth their time – how will they benefit?
✓ Give them ample respect for their experience may include teaching at numerous colleges

Non-threatening Environments
✓ No one should fear that this may be recorded or noted in their personnel file
✓ Emphasize that this is about teaching and learning not individual students or individual faculty
✓ Have people share in small groups first and have the small groups share anonymously what they have learned
✓ Focus on IMPROVEMENT – we can all improve no one is perfect or has all the answers
✓ Consider enjoyable venues

Students
✓ Help to clarify messages campus-wide so that all faculty are on the same page with regards to assessing and emphasizing outcomes
✓ Meet with the student body and explain the role of SLO assessment
✓ Have faculty explain the SLOs on every syllabus to the students
✓ Explain the role of assessment and how it impacts their grades or not

  c. How might you evaluate your assessment plan? Could you incorporate some questions or instruments to evaluate the assessment process as part of the process?

D. Share this plan with the group and get feedback from them on how well they think it will work.
VI. Draw a timeline of the above.

VII. Briefly discuss how this information might be used to improve teaching or learning in the program. How could you evaluate the usefulness of this assessment to the program, students and institution?
# Appendix

## Potential Assessment Tools

<table>
<thead>
<tr>
<th>Assessment Tools</th>
<th>Definition</th>
<th>What kind of data?</th>
<th>Benefits</th>
<th>Challenges</th>
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<tr>
<td><strong>Multiple Choice Exam</strong></td>
<td>Multiple choice testing assesses knowledge based on the correct selection of given potential answers. This usually evaluates direct recall and some application in the lower levels of Bloom’s taxonomy, but some complex multiple choice questions test more sophisticated thinking. Creating good questions is complex. Publisher’s test banks are usually not aligned with specific course outcomes.</td>
<td>Direct or Indirect Qualitative (♯) or Quantitative</td>
<td>easy to grade objective covers a lot of content or material</td>
<td>reduces assessment to provided answers often simplistic and low level this type of testing favors a single learning style over others</td>
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<td><strong>Licensing Exams</strong></td>
<td>There are licensing exams required for numerous professional licenses. These exams are officially administered by particular boards or professions on specific content and knowledge and are usually multiple choice. Because these exams define a minimum qualification, it is appropriate to have formative assessments simulating these types of exams in a course. Examples: NCLEX (nursing), X-Ray Board Exams, ASE Automotive Service Excellence Exam, CNA - Certified Nursing Assistant, EMT - Emergency Medical Technician</td>
<td>Direct or Indirect Quantitative</td>
<td>easy to score allows comparisons among students and across programs and colleges should be included in any program assessment involving a terminal licensing exam for employment</td>
<td>not authentic testing may outdate often has content validity problems may minimize or simplify actual knowledge this type of testing favors a single learning style over others</td>
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<td><strong>Standardized Cognitive Tests</strong></td>
<td>Standardized cognitive tests are developed and administered at a cost by educational testing companies. These tests are generally multiple choice and are nationally normed. These tests often assess reading writing, math, grammar, vocabulary. Additionally, there are major field tests that may be used to assess student learning in the major. Examples include: GRE, SAT, LSAT, MCAT, Miller’s Analogies, Stanford-Binet etc</td>
<td>Direct or Indirect Quantitative</td>
<td>comparable between students</td>
<td>heavily dependent on exposure to topics on test content validity is a concern this type of testing favors a single learning style over others</td>
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<tr>
<td>Assessment Tools</td>
<td>Definition</td>
<td>What kind of data?</td>
<td>What sophistication of thinking does this assess?</td>
<td>Benefits</td>
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<td><strong>Checklists</strong></td>
<td>A checklist basically determined by criteria or primary traits necessary for a given outcome. Checklists are good for simple psychomotor skills or low level recall.</td>
<td>D Quant</td>
<td><strong>Bloom’s Taxonomy</strong> - Knowledge, Comprehension, Application or Analysis/Synthesis/Evaluation</td>
<td>very useful for skills or performances students know exactly what is missing</td>
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<td><strong>Essay</strong></td>
<td>A short literary or narrative composition on a single subject, concerning a particular thesis, supported by evidence. This could be assigned within any particular rhetorical mode (e.g. argumentative, informative, definitive, etc) and within any discipline.</td>
<td>D Qual &amp; Quant</td>
<td><strong>Webb's Depth of Knowledge</strong> – Recall, Basic Application, Strategic Thinking, Extended thinking</td>
<td>displays analytical and synthetic thinking well allows assessment of student’s writing and thinking ability</td>
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<tr>
<td><strong>Comprehensive factors list</strong></td>
<td>In this assessment the student is required to list any and all factors pertinent to a given outcome, event, illustration, article or performance.</td>
<td>D Qual &amp; Quant</td>
<td>displays ability to identify wide-ranging aspects of a given concept</td>
<td>must be well-defined to be manageable and reduce irrelevant guessing and/or volumes of factors</td>
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<tr>
<td><strong>Case Study</strong></td>
<td>Case studies use an &quot;in situ&quot; approach to simulate real life situations and problems. The National Center for Case Study Teaching in Science is a good example of pre-packaged assessments and assignments that can be adapted in a variety of courses <a href="http://ublib.buffalo.edu/libraries/projects/cases/case.html">http://ublib.buffalo.edu/libraries/projects/cases/case.html</a> Engineering case studies <a href="http://www.civeng.carleton.ca/ECL/">http://www.civeng.carleton.ca/ECL/</a> Ethics case studies <a href="http://ethics.sandiego.edu/resources/cases/HomeOverview.asp">http://ethics.sandiego.edu/resources/cases/HomeOverview.asp</a></td>
<td>D Qual &amp; Quant</td>
<td>displays analytical and synthetic thinking well connects other knowledge to the topic displays critical thinking and analytic ability</td>
<td>Initially creating the case study is time consuming results may test student knowledge from multiple areas not necessarily from a particular program of study</td>
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<td><strong>Debate</strong></td>
<td>Debate is a competitive assessment where students must take a position and argue their thesis against the opposing position. This type of assessment involves numerous high level thinking skills and requires planning and participation on the part of the student. Debates can be done individually or in teams.</td>
<td>D Qual &amp; Quant</td>
<td>provides immediate feedback to the student reveals thinking and ability to respond based on background knowledge and critical thinking ability involves listening and responsiveness as well as output</td>
<td>requires a good grading rubric; more than one evaluator is helpful; difficult for ESL students; stressful for students takes course time usually ends up with a winner and a loser - competition</td>
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<td>Assessment Tool</td>
<td>Definition</td>
<td>What kind of data?</td>
<td>Benefits</td>
<td>Challenges</td>
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<td>Significant events analogy</td>
<td>Students are required to describe a real life situation that illustrates key concepts, policies, outcomes or principles as an analogy to something within their realm of experience.</td>
<td>D Qual</td>
<td>Allows students to scaffold knowledge, helps long term retention</td>
<td>Directions must be very clear, requires adequate grading techniques</td>
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<tr>
<td>Problem Solving</td>
<td>Problem solving uses the same approach as case studies but may leave more developmental problem solving to the student. For instance, the student must develop the experiment or tests to obtain data. Rice University has a great collection of these. <a href="http://www.ruf.rice.edu/~lane/rvls.html">http://www.ruf.rice.edu/~lane/rvls.html</a> University of Delaware has sample problems <a href="http://edweb.sdsu.edu/clrit/learningtree/PBL/webassess/WebAssessmentHome.html">http://edweb.sdsu.edu/clrit/learningtree/PBL/webassess/WebAssessmentHome.html</a> Samford University has a website describing PBL - Problem based learning <a href="http://www.samford.edu/pbl/definitions.html">http://www.samford.edu/pbl/definitions.html</a> SDSU has a site on assessing problem based learning <a href="http://edweb.sdsu.edu/clrit/learningtree/PBL/webassess/WebAssessmentHome.html">http://edweb.sdsu.edu/clrit/learningtree/PBL/webassess/WebAssessmentHome.html</a></td>
<td>D Qual &amp; Quant</td>
<td>Displays analytical and synthetic thinking well authentic if real world situations are used reveals thinking and ability to respond based on background knowledge and critical thinking ability</td>
<td>Difficult to grade due to multiple methods and potential multiple solutions these must be loosely structured to allow maximum creativity on the part of the student</td>
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<td>Oral Speech or Oral presentation</td>
<td>Oral presentation assesses numerous aspects of learning including communication and specific content skills. Well defined oral presentations that involve research and analysis also allow faculty to assess information competency within a particular discipline.</td>
<td>D Qual &amp; Quant</td>
<td>Easily graded with rubric; allows other students to see and learn what each student learned; connects general education goals with discipline-specific courses</td>
<td>Difficult for ESL students stressful for students takes course time must fairly grade course content beyond delivery</td>
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<td>Oral Examination</td>
<td>Oral examinations usually involve questioning a student concerning individual mastery of a particular topic. The questions are generally open-ended or involve identification of particular items. Depending upon the type of questions asked, this assessment has potential to reveal numerous areas of content mastery and critical thinking.</td>
<td>D Qual &amp; Quant</td>
<td>Allows students to really express what they know does not favor particular learning styles can simulate real world experiences very well</td>
<td>Requires a lot of time if done individually equally difficult and fair questions for all students is challenging must have rules and boundaries for responses</td>
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<td><strong>Product Creation, Special Reports or Poster sessions</strong></td>
<td>This assessment requires students to use the knowledge from a learning experience to create a product displaying that learning. Simulates real world or academic outcomes and expectations.</td>
<td>D Qual &amp; Quant</td>
<td>students can display skills, knowledge, and abilities in a way that is suited to them allows creativity requires research and analysis</td>
<td>must have clearly defined criteria and evaluative measures &quot;the look&quot; cannot over-ride the content</td>
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<td><strong>Thought Balloon</strong></td>
<td>In this assessment a particular situation, reaction, or thesis statement is analyzed from other people’s perspectives, not the student’s own. The student must analytically determine what someone else’s conclusions or thoughts about an issue are and draw a thought balloon to illustrate what someone else is thinking.</td>
<td>D Qual</td>
<td>involves student ability to understand diverse perspectives assesses critical thinking and analysis</td>
<td>may unwittingly create opportunity to biased responses requires well-defined assignments</td>
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<td><strong>Flowchart or Diagram</strong></td>
<td>A flowchart is a visual or graphic illustration of a process or system used to solve a problem or produce a product. Cognitive researchers have said that placing information in a flowchart or diagram represents one of the highest levels of cognitive achievement requiring analysis and synthesis of many concepts. Flowcharts are excellent ways to communicate the logic involved in a system; students must recall the appropriate information and associated content but must also analyze how the components fit with the entire system or process. Flow charts allow students the opportunity to gain confidence in their ability to describe the entire system or process. These assessments can be assignments or on the spot assessments.</td>
<td>D Qual &amp; Quant</td>
<td>displays original synthetic thinking on the part of the student a good way to display overall high level thinking and articulation abilities when numerous factors are involved short bullet points or statements allow more information to be shared</td>
<td>directions must be very clear more difficult to grade, requiring a checklist or rubric for a variety of different and sometimes unexpected answers difficult for some students to do on the spot does not allow writing proficiency assessment</td>
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<td><strong>Exit Surveys</strong></td>
<td>These surveys are conducted to assess student perceptions of a course, program or institution following a learning experience.</td>
<td>I Qual &amp; Quant</td>
<td>provides good summative data easy to manage data if Likert-scaled responses are used</td>
<td>Likert scales limit feedback, open-ended responses are bulky to manage,</td>
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<td><strong>Cause and Effect</strong></td>
<td>Cause and effect diagrams assess the student’s ability to display relationships.</td>
<td>D Qual</td>
<td>displays a variety of causes that relate to a time assessment must</td>
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<td>Diagrams e.g. Fishbone</td>
<td>The assessment may start with a cause and work forward or with an effect and work backwards. Students should always be reminded not to over-simplify causal relationships and always to think about other relationships and possibilities, not just the most obvious.</td>
<td>Quant</td>
<td>given outcome requires evaluative and synthetic critical thinking expansive and inclusive allows comprehensive assessment of understanding works best with groups relying on collaborative thinking</td>
<td>allow creative thinking; eliminating simple right wrong answers teamwork may involve complications</td>
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<td>Portfolios</td>
<td>Portfolios were developed based upon the art portfolio model that displays the student’s abilities through a collection of artifacts. Portfolios are a collection of student artifacts over a period of time. Many institutions use portfolio projects to assess development and change over time. Portfolios benefits student metacognitive growth and result in a resume-like product which students can use beyond their schooling. Some institutions use electronic student portfolios that are commercially available (see links to the right). Instructions to the students must be explicit, based upon the purpose and uses of the portfolio. Sample electronic portfolios. <a href="http://webcenter1.aahe.org/electronicportfolios/index.html">http://webcenter1.aahe.org/electronicportfolios/index.html</a> Sample of a digital portfolio for students <a href="http://www.hpcnet.org/upload/attachments/TheDAT_392877_20031103082323.doc">http://www.hpcnet.org/upload/attachments/TheDAT_392877_20031103082323.doc</a> Numerous samples of portfolios for student grading are found at <a href="http://www.aahe.org/teaching/pfoliosearch3.cfm">http://www.aahe.org/teaching/pfoliosearch3.cfm</a></td>
<td>D Qual &amp; Quant</td>
<td>provides the students with a clear record of their work and growth best evidence of growth and change over time students can display skills, knowledge, and abilities in a way that is suited to them promotes self-assessment</td>
<td>portfolios are time consuming to assess, requiring time outside the normal faculty load different content in portfolios makes evaluation difficult and may require training or norming the artifacts are bulky to manage, store and transport, depending on size &quot;the look&quot; cannot over-ride the content</td>
</tr>
<tr>
<td>Peer Review</td>
<td>Peer review has been used very well in art and performance courses for a long time. This method of assessment simulates the “real world” exposing students to the kind of critiques and feedback they would get as an artist or performer. It is essential that a rubric</td>
<td>Qual</td>
<td>students learn to receive and respond to criticism, as well as how to give it. valuable to the student being critiqued as well as those making the</td>
<td>students must have adequate knowledge and self-confidence to evaluate and critique the expectations of the faculty must be very clear</td>
</tr>
<tr>
<td>Assessment Tools</td>
<td>Definition</td>
<td>Benefits</td>
<td>Challenges</td>
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<tr>
<td>Journals</td>
<td>Journals or learning logs are used as a tool for increasing student writing and motivation for writing and for assessing students' writing skills. Journals focused on students' educational goals and values are useful for institutional assessment.</td>
<td>D, I Qual &amp; Quant provides students best display of skills and abilities provides excellent opportunity for peer review students can display skills. knowledge, and abilities in a way that is suited to them</td>
<td>stressful for students may take coursework time some students may take the evaluation very hard - evaluative statements must be carefully framed performance assessments require well-designed instruments, criteria, rubrics, and norming between reviewers</td>
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<tr>
<td>Internships, Field Experiences Clinical Evaluations</td>
<td>Internships are usually seen as an activity or experience rather than an assessment. However, if adequate evaluations of the experience and the performance of the student with regards to specific outcomes, skills or work are conducted, this becomes an extremely powerful assessment as well as a learning experience.</td>
<td>D, I Qual &amp; Quant provides students best display of skills and abilities provides excellent opportunity for peer review students can display skills. knowledge, and abilities in a way that is suited to them</td>
<td>time consuming to set up evaluations that are competed by key participants are essential liability issues may be a concern</td>
<td></td>
</tr>
<tr>
<td>Performance</td>
<td>Assessment of student performance provides a unique opportunity to assess skills and abilities in a real-time situation. While performance assessment appears a natural tool for fine arts, it has also been used in the humanities in the form of debates or re-enactments. &quot;High-quality performance as a goal, whether at the course or program level can make the curriculum more transparent, coherent, and meaningful for faculty and students alike. Clarity and meaningfulness, in turn, can be powerful motivators for both faculty and students, particularly if the performance is a public one. And public performances provide models for other students&quot; (Wright, 1999).</td>
<td>D Qual &amp; Quant provides best display of skills and abilities provides excellent opportunity for peer review students can display skills. knowledge, and abilities in a way that is suited to them</td>
<td>stressful for students may take course time some students may take the evaluation very hard - evaluative statements must be carefully framed performance assessments require well-designed instruments, criteria, rubrics, and norming between reviewers</td>
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</tbody>
</table>

**Assessment Tools**

**With specific criteria be used for responses and that the rubric is aligned with the appropriate goals and levels of expectation.**

**Benefits**

- critique.

**Challenges**

- the faculty member must determine how the critique will inform the final assessment.

**What kind of data?**

- Direct or Indirect
- Qualitative (#) or Quantitative

**What sophistication of thinking does this assess?**

- **Bloom’s Taxonomy** - Knowledge, Comprehension, Application or Analysis/Synthesis/Evaluation
- **Webb’s Depth of Knowledge** – Recall, Basic Application, Strategic Thinking, Extended thinking
<table>
<thead>
<tr>
<th>Assessment Tool</th>
<th>Definition</th>
<th>What kind of data?</th>
<th>What sophistication of thinking does this assess?</th>
<th>Benefits</th>
<th>Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reflective self-assessment essay</strong></td>
<td>These types of essays ask the students to assess their own growth and development using evidence to support their conclusions. Correctly structured, student self-assessment can provide insight into affective development and metacognitive growth that other assessment cannot. “Self-assessment is a method that allows -indeed forces- students to take stock of and analyze their own learning. As such, it can be not only an evaluative tool but an educational process in its own right.” Wright 1999</td>
<td>D, I</td>
<td>provides invaluable ability to evaluate affective growth in students can provide powerful information that cannot be accomplished by any other means of assessment</td>
<td>the rubric to evaluate the self-assessment should be explicit students should provide evidence of any conclusions they make; this may include artifacts to support these conclusions</td>
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<tr>
<td><strong>Risk Assessment Evaluation</strong></td>
<td>This is an exercise that determines the risk associated with certain strategies. This is a real world practice that organizations do to</td>
<td>I Qual &amp; Quant</td>
<td>this requires high level analysis that provides a good picture of student thought processes</td>
<td>developing a rubric for something with no “right answers” rather argumentation and evidence are important</td>
<td></td>
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<tr>
<td><strong>Satisfaction and Perception Surveys</strong></td>
<td>There are numerous commercial standardized surveys available to gather data on student, faculty, staff, employer, and community satisfaction or perceptions. Examples are the CCSSE and NSSE on student engagement Noel-Levitz SSI (Student Satisfaction Inventory) CSEQ College Student Experiences Questionnaire</td>
<td>I Qual or quant</td>
<td>provides good indirect data and can be compared longitudinally to determine outcomes over a long period of time</td>
<td>respondents may be influenced by factors other than those being considered validity and reliability most be closely watched occasionally over-relied upon by student services</td>
<td></td>
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<tr>
<td><strong>Capstone project or course</strong></td>
<td>A capstone is defined as a culminating event or crowning achievement. Capstone Courses or Projects are high stakes courses or projects integrating multidisciplinary education with a problem or course. Some institutions have developed capstone courses for programs which integrate an entire sequence of study. Capstone courses, where the course itself is an assessment instrument, provide unique and challenging opportunities for students to integrate and demonstrate their knowledge, skills, and abilities. Capstone</td>
<td>D Qual &amp; Quant</td>
<td>best method to measure growth overtime with regards to a major, course or program. capstones assess cumulative knowledge, skills and abilities better than a single assessment or a licensing exam. designed to evaluate synthesis and integration across a</td>
<td>adequate focus and breadth of assessment are important understanding all the variables to produce assessment results is important e.g. potential external variables. capstones should be aligned and coordinated with</td>
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<tr>
<td>Assessment Tool</td>
<td>Definition</td>
<td>Benefits</td>
<td>Challenges</td>
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<tr>
<td>Team Project</td>
<td>Courses provide ample and focused formative time to synthesize and cement specific skills and competencies. Capstone courses are a significant learning experience as well as a powerful assessment tool. Example of capstone projects in General Education <a href="http://genedhonors.binghamton.edu/projects.html">http://genedhonors.binghamton.edu/projects.html</a> Capstone Course in Education <a href="http://www.wgu.edu/wgu/smartcatalog/class_description.asp?course_key=7033">http://www.wgu.edu/wgu/smartcatalog/class_description.asp?course_key=7033</a> Sample Capstone Projects <a href="http://www.unomaha.edu/~wwwpa/project/prevsemesters.html">http://www.unomaha.edu/~wwwpa/project/prevsemesters.html</a></td>
<td>Course of study, major or program.</td>
<td>Criteria or standards for the breadth and depth of the course of study</td>
<td></td>
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</tr>
<tr>
<td>Focus Groups</td>
<td>A focus group is a directed population sample where small-group discussion is used to elicit qualitative responses beyond that of a survey. In-depth qualitative information. Individuals are specifically invited to participate in a discussion focused on a, usually no more than three to five. The discussion is informal as participants are encouraged to talk with each other about their experiences, preferences, needs, observations, or perceptions.</td>
<td>Surveys with Likert scaled answers provide quantitative data but lack some important direction for improvement Focus groups provide answers the evaluators may have never considered</td>
<td>Must fairly grade individuals as well as team Fair grading for all participants may be complicated Student interaction may be a challenge</td>
<td></td>
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</tr>
</tbody>
</table>

**Assessment Tools**

- **What kind of data?** Direct or Indirect Qualitative (#) or Quantitative
- **What sophistication of thinking does this assess?**
  - **Bloom's Taxonomy** - Knowledge, Comprehension, Application or Analysis/Synthesis/Evaluation
  - **Webb's Depth of Knowledge** - Recall, Basic Application, Strategic Thinking, Extended thinking
Flowchart or Diagram

A flowchart is a visual or graphic illustration of a process or system used to solve a problem or produce a product. Cognitive researchers have said that placing information in a flowchart or diagram represents one of the highest levels of cognitive achievement requiring analysis and synthesis of many concepts. Flowcharts are excellent ways to communicate the logic involved in a system; students must recall the appropriate information and associated content but must also analyze how the components fit with the entire system or process. Flowcharts allow students the opportunity to gain confidence in their ability to describe the entire system or process. Follow-up case study questions concerning the system or process, involving potential problems or adaptations, allow the students to use the flowchart to evaluate system changes.

Directions for this type of assessment must be very specific.

1. Describe a process using a flowchart or diagram. A flowchart is a visual or graphic illustration of a process or system used to solve a problem or produce a product.
2. Chart the process the way it really occurs.
3. Prepare a single lined title for the flowchart or diagram that adequately describes the process being described.
4. Begin with an event that initiates the process.
5. Record each succeeding action or reaction clearly identifying its relationship to the process.
6. Use standard symbols for reoccurrences
7. If multiple stimulators or multiple consequences occur, try to include these.
8. Make notes or reference anything that needs explanation and any assumptions that are not evident.
9. Determine and end point or whether the process is cyclic and draw it in this way.
10. Run through the flowchart to be sure you have not left anything out and that it flows in the way you have drawn it.

W.E. Deming, the quality guru is reported to have said, "Draw a flowchart for whatever you do. Until you do, you do not know what you are doing, you just have a job." In the same way we might tell our students to draw a flow chart, until they do they have only memorized factoids.
Fishbone Diagram

The fishbone diagram identifies variables, issues or components that produce a specific effect.

Reflective Self-Assessment Essay

These types of essays ask the students to assess their own growth and development using evidence to support their conclusions. An example of this kind of essay is given below. This essay is from a multidisciplinary capstone class in Advanced Composition and Critical Thinking taught by four instructors at Bakersfield College. The assignment is

| Topic: | Discuss your development as a writer this semester. |
| Audience: | All four instructors |
| Due Date: | 16 May 2002 at the beginning of class |
| Points: | 100 |
| Format: | MLA format |
| Prewriting Process: |
  1. Carefully reread all of your writing assignments for this class.
  2. Choose the one you feel is the strongest. List the reasons.
  3. Choose the one you feel is the weakest. List the reasons.
  4. Characterize yourself as a writer and as a thinker, referring to any work you have done for this class.
  5. Which parts of the class were most helpful? Why? Which parts need to be improved? Why?

Using your answers to questions 2-4 as a basis for your essay, discuss your development as a writer this semester. Answer question 5 on separate page(s).

In addition to your final essay, turn in the following:

- Initial Baseline Essay paper
- Strongest paper
- Weakest paper
- Answers to the Prewriting Process questions (2-5).

Used with Permission from Kate Pluta Bakersfield College
Checklist

A checklist basically determines whether a criterion is present or not, in contrast to how well or at what performance level. Checklists are good for simple psychomotor skills or low level recall.

<table>
<thead>
<tr>
<th>Hand washing Checklist</th>
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</thead>
<tbody>
<tr>
<td>Adjusted to appropriate water temperature</td>
</tr>
<tr>
<td>Hands wetted</td>
</tr>
<tr>
<td>Soap applied</td>
</tr>
<tr>
<td>Lather worked-up</td>
</tr>
<tr>
<td>Applied cleansing friction of at least 20 seconds</td>
</tr>
<tr>
<td>Applied friction between fingers</td>
</tr>
<tr>
<td>Applied friction on back of hands</td>
</tr>
<tr>
<td>Used fingernail brush for nail beds</td>
</tr>
<tr>
<td>Rinsed off all soap</td>
</tr>
<tr>
<td>Dried appropriately</td>
</tr>
</tbody>
</table>

Sample Student Services Assessment

Admissions and Records

1. Number of petitions involving policies, deadlines and regulations
2. Survey of students regarding forms and applications
3. Survey of students regarding web access
4. Student satisfaction survey

Assessment Center

1. Student satisfaction survey
2. Student awareness of service survey
3. Percentage of first-time students taking placement test in first semester

Counseling

1. Student satisfaction survey
2. Student awareness of service survey
3. Needs assessment by population segments of interest
4. Comparison of success outcomes between students who received counseling services and those who did not (may include subgroups such as students on probation)
5. Pre/post assessment of student self-advocacy behavior
DSPS

1. Student satisfaction survey
2. Number/percentage of DSPS students who attain terminal goal

EOPS/CARE

1. Number/percentage of students who attain & complete their educational goal(s) without being on probation
2. Number/percentage of students who evaluate their SEP with counselor
3. Student satisfaction survey

Financial Aid

1. Decrease in college’s default loan rate by X%.
2. Percentage of students who applied and received financial aid
3. Percentage of students who were eligible to receive financial aid but did not apply
4. Student satisfaction survey
5. Student awareness of service survey

Health Center

1. Student satisfaction survey
2. Student awareness of service survey
3. Number/percentage of students who used the services including the mental health care service

Safety/Security Office

1. Number/percentage of permits purchased
2. Number of parking citations
3. Survey and/or focus group study on student needs and safety perception
4. Number of complaints/incidents related to parking, smoking, and vandalism

Student Activities Office (Associated Student Governance Group)

1. Student satisfaction with workshop and presentations
2. Attendance at committee meetings
3. Increase/decrease in student membership in clubs, organizations, student government, etc.
Rubric for Evaluating Institutional Effectiveness – Part I: Program Review
(See cover letter for how to use this rubric.)

| Levels of Implementation | Characteristics of Institutional Effectiveness in Program Review  
<table>
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<tbody>
<tr>
<td></td>
<td><em>(Sample institutional behaviors)</em></td>
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</table>
| Awareness                | • There is preliminary investigative dialogue at the institution or within some departments about what data or process should be used for program review.  
|                          | • There is recognition of existing practices and models in program review that make use of institutional research.  
|                          | • 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 program 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 improvement.  
|                          | • 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.  
<p>|                          | • The results of program review are used to continually refine and improve program practices resulting in appropriate improvements in student achievement and learning. |</p>
<table>
<thead>
<tr>
<th>Levels of Implementation</th>
<th>Characteristics of Institutional Effectiveness in Student Learning Outcomes (Sample institutional behaviors)</th>
</tr>
</thead>
</table>
| 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.  
                           • Results of assessment are being used for improvement and further alignment of institution-wide practices.  
                           • There is widespread institutional dialogue about the results.  
                           • Decision-making includes dialogue on the results of assessment and is purposefully directed toward improving student learning.  
                           • Appropriate resources continue to be allocated and fine-tuned.  
                           • Comprehensive assessment reports exist and are completed 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. |
<table>
<thead>
<tr>
<th><strong>Sustainable Continuous Quality Improvement</strong></th>
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<tbody>
<tr>
<td>• Student learning outcomes and assessment are ongoing, systematic and used for continuous quality improvement.</td>
</tr>
<tr>
<td>• Dialogue about student learning is ongoing, pervasive and robust.</td>
</tr>
<tr>
<td>• Evaluation and fine-tuning of organizational structures to support student learning is ongoing.</td>
</tr>
<tr>
<td>• Student learning improvement is a visible priority in all practices and structures across the college.</td>
</tr>
<tr>
<td>• Learning outcomes are specifically linked to program reviews.</td>
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</tbody>
</table>