SLO Advisory Group

Ventura College

SLO/SUO HANDBOOK

The Process of Effective Assessment and Reporting for Student Learning and Service Unit Outcomes

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What are Student Learning Outcomes?

Student learning outcomes (SLOs) are learning goals set by the course instructor, program faculty or institution and are vital to the interactive learning process. They are the knowledge, skills, activities, and attitudes that a student has attained from his or her engagement in a particular set of collegiate experiences *(adapted from the ACCJC Standards Glossary).*

WHAT DO SLO'S DO?
- Make students aware of what will be expected of them in a course. With this process, students don't have to guess.
- SLOs should be concise statements of what we want students to:
    - Know/Understand
        - Content: facts, theories, concepts
        - Values: open-mindedness, ethics, social responsibility
    - Be able to do
        - Skills: computational, collaborative, communication, occupational, creativity, etc.
- SLOs must be measurable and provide *meaningful assessments* to see if expectations are met. .
- A rubric is created and used in assessing each SLO.

What are the benefits of having Student Learning Outcomes?

For Students at Ventura College:

- They provide clear and concise statements of the expected knowledge and/or attitudes students are supposed to demonstrate from an assignment, a course, or at the end of a program.
- They provide students a way to articulate the knowledge and abilities that they have gained and to express what they know to others.
- They provide clear and concise statements of an expected experience a student will receive from a service program.
- They provide students with an awareness of the expected outcome of an assignment, program or service and the criteria upon which they will be assessed.

For Faculty and Staff at Ventura College, outcomes will:

- Assist departments and service programs to initiate a dialogue for improvement of their methodolo-gies or service.
- Ensure that appropriate assessment strategies are employed.
- Help communicate clear learning goals to their students.
- Help improve teaching, learning and communication with students.

Our goal:

We would like to move away from a "Culture of Compliance" – focus on accreditation requirements - to a "Culture of Intention", where we are student-centered. Our focus should be on reflection on how we teach, ways to improve student success, and experimentation with different strategies in the classroom.

SLO Status at Ventura College

- Departments identified SLOs for all courses.
- Departments identified an ISLO for every course.
- Courses that are part of a program were mapped to the PSLOs as introduced, practiced, and/or mastered.
- Service units identified SUOs for their department.
- Services identified at least one ISUO or ISLO for their department.
- Departments created a 5-year rotational plan for assessments.
- Services created a 1-year assessment plan.
- The SLOs/SUOs and rotational plans are entered into TracDat. Changes are made as necessary, based on course offerings.
- Departments and services create initiatives after analyzing assessment findings.
- Re-assessment is done after implementation of initiatives to see what impact the changes made on student learning (closing the loop).
- SLOs are entered into the Course Outline of Record in Curricunet. Changes to SLOs are made in Curricunet and are processed through the Curriculum Committee. They are then changed in TracDat.
- SLOs must be listed on all course syllabi.
- SLOs are available on the VC Student Learning Outcomes web pages.
- New service units are added to TracDat as necessary.
- New courses are added to TracDat as they are approved by the State Chancellor's Office and offered for the first time in the Schedule of Courses.
- Courses are archived from TracDat as they are deleted from the VC catalog.

What is a Program?

At Ventura College, a program is defined as any course of study that counts toward a certificate, degree or transfer and/or any stand-alone or combined student support services that may enhance students' academic achievement. These are broken down into two main categories: Instructional Programs and Service Unit Programs. Further, Service Unit Programs are divided into three subcategories: Student Services, Instructional Support, and College Services.

Overview of SLOs/SUOs

	Student Learning Outcomes (SLOs) Course level	Student Learning Outcomes (SLOs) Program level	Service Unit Outcomes (SUOs) Service Unit level
Documents:	College Mission Program Level SLOs Core Competencies	College Mission Course Level SLOs Core Competencies	College Mission Service Unit Outcomes Core Competencies Strategic Plans
Focus is on:	Students and Curriculum	Students and Curriculum	Students, Clients, Customers and Activities, Services or Processes
Who:	Faculty with administrative support	Faculty with administrative support	Staff with administrative support
Institutional Processes involved:	Curriculum SLO Advisory Group Program Review	Curriculum SLO Advisory Group Program Review	SLO Advisory Group Program Review

Assessment at Ventura College

DESCRIPTION/DEFINITION

Assessment at Ventura College occurs at both the institutional, program, course, and service unit levels.

- **Institutional Student Learning Outcomes** (ISLOs) are broad educational goals that are shared across campus. These are the outcomes every student who leaves VC with a degree, certificate, vocational training, or sufficient credits and breadth to transfer with their GE work done, should be able to do or know. These quantitative and qualitative measures create a snapshot of the college at specific points in time and are useful benchmarks for comparison across time within the institution as well as with national and state trends.

- *Program Student Learning Outcomes (PSLOs)* are the knowledge, skills and abilities that a student should have after completion of a specific degree or certificate. Programs are defined as departments offering a Certificate of Achievement or Associates Degree. PSLOs broadly cover knowledge gained from *major- specific* courses. All courses mapped to a program are identified as introducing, practicing or mastering at least one of the program's PSLOs. PSLOs only need to be assessed in courses that were mapped to that PSLO as a course that 'masters' that outcome at a 2-year college level.

- *Course Student Learning Outcomes (CSLOs)* represent the knowledge, skills and abilities a student should have after completing a course. These are course-specific areas of knowledge.

- *Institutional Service Unit Outcomes (ISUOs)* are broad service support goals that are shared across campus. These are the outcomes of every service unit on campus in terms of how they support students as they attend VC to work towards their educational goal.

- **Service Unit Outcomes (SUOs)** are goals and strategies of service unit programs in supporting students as they progress through their educational journey at Ventura College.

The Eight Step Process for Assessment

Getting started with SLOs/SUOs is seen as the most difficult part of assessment, it is important to remember that you have been doing this all along. Upon some reflection, nearly everyone can see that in some way or other we have been doing a great deal of SLO work all along. Therefore, what we need to do is to start formulizing it, making it routine, and being more aware of how it can be a tool for improving our institution. This process is outlined below and detailed for your information on the next few pages. The intention of the process is to provide you with the steps to guide you with: the development of course and program-level SLOs and SUOs, how to

assess them, what to do with the data, and how to use the results. This process is intended to serve as a guideline: your department may choose to modify it to best determine how to implement the process.

The process for documentation is also an important step in the process. This handbook explains how to document your SLO/SUO development and assessment efforts utilizing TracDat as the assessment data repository used by the campus for this purpose. The establishment and maintenance of documentation will not only be beneficial for the campus but it will also help you and your department see the work that has been done, record for your reference how it went, and what actions need to be taken to meet and/or improve the goals and needs of your department. It will also help you create and track initiatives for improvements of student learning and student support.

Below is an overview and brief explanation of the process and a more detailed description of each can be located on the subsequent pages.

	STEP	DESCRIPTION
1	Define SLOs/SUOs	Develop or revise SLO/SUO statements. Meetings of faculty/staff should occur to brainstorm ideas for program and course level SLOs/SUOs. Incorporate your SLO/SUO meeting notes and process into the SharePoint document depository.
2	Create an Assessment & Rubric	Develop assessment measures, performance targets, and rubrics.
3	Data Collection	Assess the SLO/SUO and collect data
5	Data Analysis	Analyze data and summarize in TracDat
5	Create Initiatives	Based upon faculty discussion of the assessment data, determine ways to use the data and make applicable revisions to the curriculum, departmental processes, and the outcomes/objectives.
6	Implement Initiatives	Implement the initiatives in courses, programs, and/or service units.
7	Closing the Loop	After implementing initiatives, re-assess the SLO/SUO and determine the effect it had upon student learning and success.
8	Make Adjustments	Make any recommended changes, then repeat the process continuously focusing on various SLOs/SUOs as relevant. This creates a cycle of continuous improvement.

Who Develops SLOs/SUOs

For SLOs, the meeting will include faculty members teaching the course or program to be assessed. When developing or revising SLOs, the focus is to identify what the students should know or apply with the central knowledge, skills, and abilities gained from a course or finishing the program.

For SUOs, classified staff and managers (and faculty members, where appropriate) will identify the services for evaluation. When developing SUOs, the focus is on Students, Clients, Customers and Activities, Services Processes or what a student experiences from a service.

Regardless of what outcome(s) or objectives(s) you select as a group, make sure that they are relevant to your course/program/department. This can be confirmed by looking at your program's purpose and/or your department's short-term and long-term goals.

Alignment to your program or department goals is important and enables the process to be more logical and relevant.

The following three factors are aimed to ensure that the process has the solid foundation to reach the end of the assessment cycle:

- Central

  Ensure that any outcome/objective that you decide is central to your course/program/department is being met, or, if it is not, how you plan on improving to work toward meeting your goal. This will ensure the greatest amount of buy-in from various individuals and thus, have the best chance of being completed. This will enable the widest impact on student learning, student success and client experience.

- Feasible

  Look at your resources (human, time, technological, etc.) and determine whether the SLO/SUO and its assessment are feasible. Is it likely that the process could be accomplished or is it wishful thinking? A reality check helps determine the likelihood of success in following through with the assessment.

- Meaningful

  Are you selecting the outcome/objective because it is easy to measure or because you really think it is important to measure? It is recommended that you select something that your group is curious about, something that will make a positive impact for your students/clients, and something you will be interested in starting and completing in the assessment process.

SLO/SUO Statements

DEVELOP A LIST OF SLO/SUO STATEMENTS OR REVISE PREVIOUSLY DEVELOPED STATEMENTS

Develop a first draft list of SLOs/SUOs. Bear in mind that even though your SLOs/SUOs are defined, they are not static. Outcomes and objectives are dynamic. They are subject to periodic revision in order to maintain currency and relevance and, most importantly, continue to meet the needs and expectations of the students and clients. However, if they continue to be relevant through time, they do not need to be changed.

Think about the big picture. Set realistic goals and have high expectations (those that require higher-level thinking such as synthesis of basic skills or the analysis of critical thinking skills) of your students. Discuss the kinds of student product or output that might demonstrate these expectations so that the performance can be measured.

As mentioned above, it is neither necessary nor efficient to start from scratch when developing outcomes/objectives. The following are some resources where outcomes/objectives might already exist:

- Look at goals and outcomes from another course, program, or department that is similar to yours but external.
- Professional organizations may have broad outcomes/objectives that can be revised to become applicable to your course/program/department.
- When developing or updating their SLOs, Career and Technical Education (CTE) programs should consult their advisory committees, accrediting boards or other professional organizations for guidance. These groups can easily define what knowledge, applications and evaluative skills program completers should have in order to be successful in their occupation.

The following are some guiding questions to help you and your teams develop SLOs and SUOs:

SLO	SUO
Think about a course completer or program graduate. What kind of course/program experience would allow for the greatest student success? As a result of this course/program: • What should this student know or comprehend? • What/How will this student be able to apply the knowledge/skills gained? • What kind of critical analytical, synthesis or evaluative skills or values will this student possess?	Think about a student who will receive the service. What kind of service experience would allow for the greatest student satisfaction? As a result of this service: • What will the student know/comprehend? • Was the service adequate to meet the student's needs? • How will this student or client apply the knowledge/skills gained? How will the student or client be able to analyze, synthesize or evaluate the information/knowledge/skills gained?

When considering the questions above, think about how you will know whether or not your students have performed as you had intended for them to perform. What will the students do to provide evidence that they have successfully met your expectations?
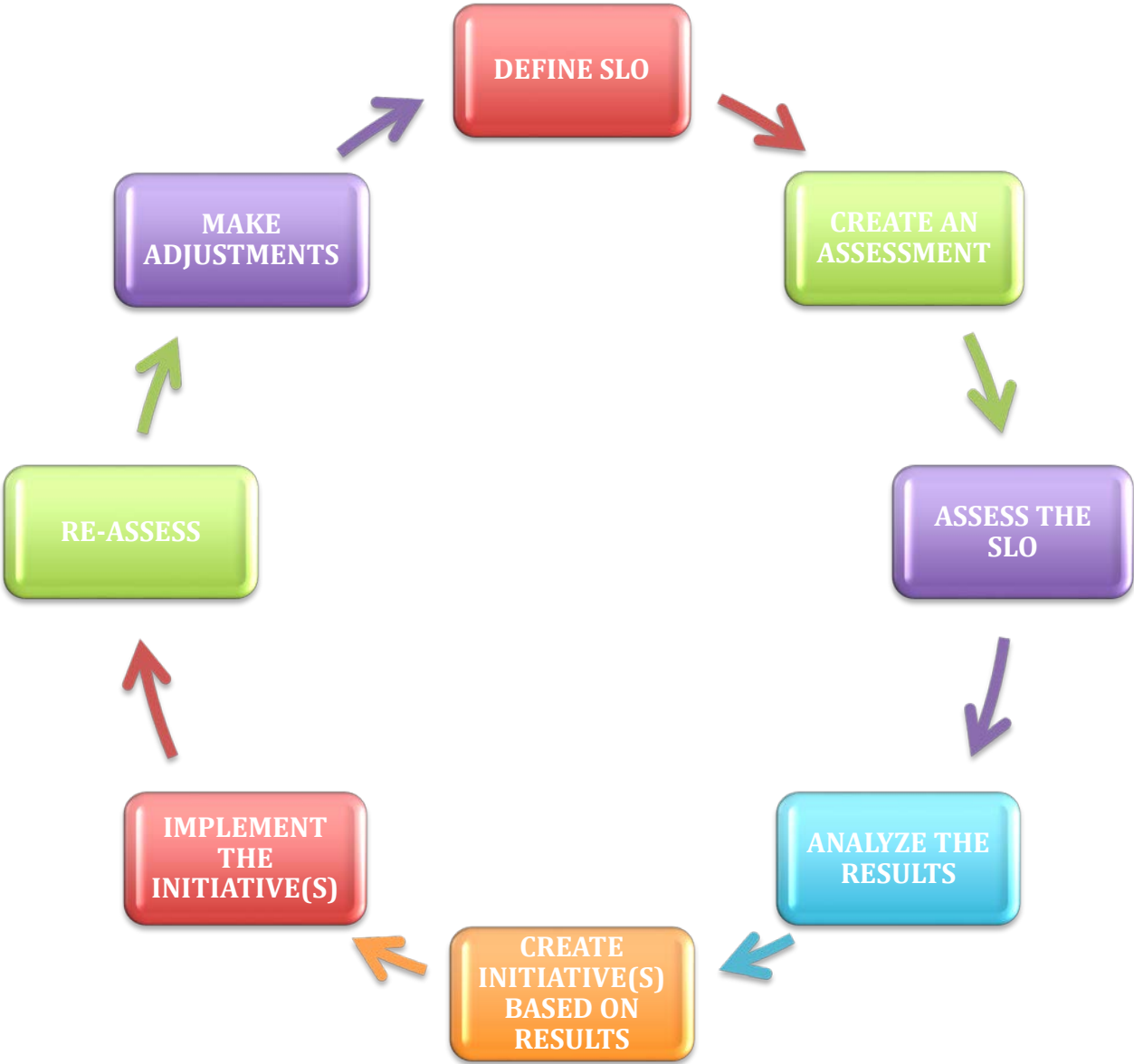
It is also important that your outcomes/objectives are measureable or observable. Can they be observed or tested? Can accurate and reliable data be collected for the objective? One way to ensure that an SLO or an SUO is measureable is to use action verbs (such as demonstrate, apply, recall, evaluate), because action on the students' part will result in an overt behavior that can be measured. Avoid terms like "become aware of," "appreciate," "learn" or "understand" because these verbs do not lead to measureable or directly observable results.

A major element in planning your SLO/SUO assessment is to determine what tool you will use to determine whether or not (and how well) your students have met your expectations. Thus, the assessment tool is very important.

Look at what is already being done to minimize any duplication of effort. For SLOs, use your syllabi, course outlines or textbooks and choose one or two major assignments/activities that you give regularly and that you feel are central to the course. This can also be applied to the non- instructional side. For SUOs, discuss any service checks that you perform on an ongoing basis. Map your existing materials or processes to your SLOs/SUOs to help you determine the best assessment tool for the outcome. A mapping tool can be found in the appendices of this handbook to help you map your current assignments, projects, exams, presentations, or presentations to your SLOs/SUOs.

Regardless of what you select as a group to assess, it must be important to you! And, remember to keep it simple, especially when you are starting out. In areas where there are multiple sections of same course being taught, instructors must meet and decide which SLO will be assessed in a given semester, what rubric will be used to standardize the results, and what achievement level (performance indicators) is desired.

Assessment Model Chart – The SLO Cycle

The SLO Cycle:
- DEFINE SLO
- CREATE AN ASSESSMENT
- ASSESS THE SLO
- ANALYZE THE RESULTS
- CREATE INITIATIVE(S) BASED ON RESULTS
- IMPLEMENT THE INITIATIVE(S)
- RE-ASSESS
- MAKE ADJUSTMENTS

Types of SLOs

ISLOs (Institutional SLOs) are broad educational goals that are shared across campus.   These are the outcomes every student who leaves VC with a degree, certificate, or vocational training should be able to do or know. We have specific VC ISLO rubrics that are to be used to assess them. Our ISLOs are:

- Communication (written, oral, visual)
- Scientific and Quantitative Reasoning
- Critical Thinking and Problem Solving
- Information Literacy
- Personal/Community Awareness and Academic/Career Responsibilities

We focus on a different ISLO each academic year so that all five ISLOs will be assessed during our 5-year rotational plan. Each course at VC has been mapped to at least one ISLO. Courses will assess their selected ISLO(s) during the year that has been designated for that ISLO.

Your department chair when you are to assess and ISLO, which ISLO it will be, and in which course.

PSLOs (Program Level SLOs) are the knowledge, skills and abilities that a student should have after completion of a specific degree or certificate. They broadly cover knowledge gained from *major- specific* courses.

PSLOs only need to be assessed in courses that were mapped to that PSLO as a course that 'masters' that outcome at a 2-year college level.

CSLOs (Course level SLOs) represent the knowledge, skills and abilities a student should have after completing a course. These are course-specific areas of knowledge.

Types of SUOs

Institutional Service Unit Outcomes (ISUOs) are broad service support goals that are shared across campus. These are the outcomes of every service unit on campus in terms of how they support students as they attend VC to work towards their educational goal.

Service Unit Outcomes (SUOs) are goals and strategies of service unit programs in supporting students as they progress through their educational journey at Ventura College.

Writing Student Learning Outcomes

A. STUDENT LEARNING OUTCOME PROCESS **(ACHA-NIU handout):**

1. Identify the desired learning result – Write your Student Learning Outcome.
2. Relate the Student Learning Outcome to the departmental and organizational mission
3. Develop a sequence or combination of actions for achieving the desired result.
4. Identify methods for measuring key performance indicators.
5. Set acceptable, achievable performance targets.
6. Collect and analyze data to show progress in achieving the intended performance targets.
7. Use the data to adjust the student Learning Outcome plan to improve future outcome achievement.
8. Throughout the process involve pertinent stakeholders to broaden support, share expertise, coordinate resources, maximize the use of data and celebrate success.

B. RULES IN WRITING STUDENT LEARNING OUTCOMES

Outcomes must:
- Contain an active verb that describes an observable or identifiable action
- Focus on the student as the performer
    - What is the student expected to be able to know?
    - What is a student expected to be able to do?
    - How is a student expected to be able to think?
- Include a timeframe in which the outcomes can be measured.

To write a student learning outcome, there are various formats you can use:

- SWBAT (Student Will Be Able To) + Active verb (from Bloom's taxonomy) + Condition (as a result of) + Measurement (as measured by or as demonstrated by …) + When (at what timeline).
- PowerPoint on Writing Learning Outcomes includes Keeling's guidelines, format, 10- points for writing outcomes, examples and more.
- Keeling format - see graphic
- Article by Marilee Bresciani
- Condition (As a result ….; from participating in …) + Audience (selected population being assessed) + Behavior (active verb) + Degree of Achievement

Types of verbs:

To find appropriate verbs to use, see the information on Bloom's Taxonomy in Appendix B of this handbook.

- Verbs to avoid when writing learning outcomes – these are not action verbs (use specific action verbs):
    - Appreciate
    - Become aware of
    - Become familiar with
    - Know
    - Learn

- o Understand
- o Value

- Use verbs such as
  - o Tell
  - o Articulate
  - o Define
  - o Demonstrate.

C. STEPS FOR DEVELOPING/WRITING LEARNING OUTCOMES

1. Define the program/event/service you will be assessing with your Student Learning Outcome.
2. Focus on one program/event/service. This narrows the potential learning outcome(s).
3. Think about what students can/should learn from the program/service.
4. When we organize programs as well as provide services, we try to educate students about something. What is that something? What is the purpose of the program?
5. Draft a few learning outcomes.
6. Keep the outcomes to a simple sentence with an outcome. Use an action verb.
7. Review the learning outcomes with colleagues. (Two heads are better than one).
8. Make sure you choose a colleague who understands learning outcomes. Ask if it relates and complements you program/service. Remember, others who know nothing about your area may read your outcome so direct, concise outcomes are best.
9. Make a second draft of the learning outcome.
   a. Use the feedback and adjust the outcome, if necessary.
10. Think about how you will measure the outcome(s). Choose a method to do so.
    a. What instruments will you use? Quantitative or qualitative methods? Survey, interviews, observations, focus groups, etc.? Be sure that the student learning outcomes can be measured appropriately and adequately.
11. Determine if your instrument tools will help you to thoroughly determine whether or not the learning outcomes have been accomplished.
    a. Be sure the tools actually measure the student learning outcomes. If the methods don't do this, your work is wasted. You are trying to determine whether or not students are achieving the learning outcomes. If the tools don't measure the outcomes, then you won't know if the students are learning.
12. Consult with colleagues about the connection between the measurement tool and the learning outcomes.
    a. As you did when consulting colleagues about your learning outcomes, consult them to determine if they see the clear link between your methods and the student learning outcomes. This will help you to be sure that your work will provide meaningful results in the end.
13. Finalize your learning outcomes and methods.
    a. Make changes based on feedback or other resources. This is the last step before going forth with your assessment project.

D. MISTAKES IN WRITING STUDENT LEARNING OUTCOMES:

- ***The learning outcomes don't follow department, division, or institution goals.***

  All learning outcomes should have meaning for you, your department and the students participating in your programs or receiving your services. This meaning should be derived from the specific goals of your department.
- ***The learning outcomes include words that are hard or impossible to measure.***

Avoid terms such as show understanding, develop awareness, possess a level of comfort, appreciate, become aware of, become familiar with, know, or learn. Use Bloom's Taxonomy to find good verbs for writing learning outcomes (See Appendix B).

- *The learning outcomes include too many skills in one statement.*

  Have only one skill per statement. If multiple skills are included, the outcome becomes complex and difficult to measure. If you have more than one outcome per statement, divide them into separate statements.

- *The learning outcomes are written to include everything possible a student could learn by participating in the activity.*
  Focus only on the key things the student should learn as a result of the activity.

- *The learning outcome statement is actually not a learning outcome.*

  For example: The student will complete a self-assessment survey; the student will utilize the services of [x] office.

- *The learning outcomes are not written in the appropriate format.*

  There are several standard formats for writing student learning outcomes, each of which contains the appropriate components for a learning outcome.

- *The learning outcomes attempt to focus on every domain/sub-domain.*

  Focus on what is most applicable to your department.

- *The learning outcomes measure satisfaction or performance evaluation rather than the learning of the student.*

  Measuring whether someone liked something or not; whether the person would recommend the program or not; how many used it; or how well someone did something is not measuring the learning that occurred. Make sure you can ask the question, "Is learning being demonstrated?"

- *There are too many learning outcomes.*
  No one, no department can assess 30 outcomes in a year. Focus on the priority areas for your department/programs. Identify a few key learning outcomes that are important and that can be easily assessed.

- *Only one person wrote, reviewed, edited and implemented the learning outcomes.*
  Even if you are a one person office, make sure you have other people review your outcomes and help ask questions to make sure you are assessing what you need to be for your students to learn.

  (University of Rhode Island)

E. EXAMPLES OF NON-SPECIFIC AND MORE SPECIFIC STUDENT LEARNING OUTCOMES

Examples – Too general and very hard to measure:

- *will appreciate the benefits of exercise.*
- *will be able to access resources at UWL.*
- *will develop problem-solving skills and conflict resolution.*
- *will be able to have more confidence in their abilities.*

Examples – Still general and hard to measure:

- *will value exercise as a stress reduction tool.*
- *will be able to develop and apply effective problem solving skills that would enable on to adequately navigate through the proper resources at the university.*
- *will demonstrate the ability to resolve personal conflicts and assist others in resolving conflicts.*
- *will demonstrate critical thinking skills, such as problem solving as it relates to social issues.*

Examples – Specific and measurable:

- *will be able to articulate three health-related stress impacts on the body when interviewed two weeks after taking a wellness course.*
- *will be able to identify the most appropriate resource that is pertinent to their*
  (#1 concern at the university on portfolio review at mid-term.)
- *will be able to assist roommates in resolving conflicts by helping them negotiate agreements when observed by RA during event.*
- *will be able to identify three similarities and three differences they have with someone of a different background on electronic survey their first semester at UWL.*

F. REPAIRING A STUDENT LEARNING OUTCOME

Sometimes shortcomings in student learning outcomes may be identified by answering two simple questions:

- *Can it be measured?*
- *Is learning being demonstrated?*

If both of these questions cannot be answered "yes", then the student learning outcome is not acceptable. Sometimes you can "fix" the learning outcome. Keep in mind the following examples do not include all the components necessary in a student learning outcome. They are to demonstrate a point.

Example of Student Learning Outcomes:

1. *Participants will understand the nine reasons for conducting a needs assessment.*

   Learning is demonstrated; however this would be difficult to measure.

2. *Student will arrive on time daily.*

   This can be measured; however learning is not being demonstrated.

Re-Written Student Learning Outcomes:

1. Participants will be able to list nine reasons for conducting a needs assessment.
2. Student will be able to articulate the necessity of maintaining office hours as published.

Both of these re-written student learning outcomes answer the two questions. They may be measured and they demonstrate student learning.

After you have written a learning outcome, check every learning outcome by asking:

- Does the learning outcome describe what your program intends for students to know (cognitive), think (affective) or do (behavioral)?
- Is the outcome detailed and specific? Is it measurable?
- Can you count it, observe it, or identify it?
- Is it meaningful? Is it manageable?
- Can you create an activity to enable students to learn the desired outcome? Who will be gathering evidence to know the outcome has been met?
- What kind of student product (i.e. assignment, test, or project) will help you decide if the outcome has been met?
- Who would know if my outcome has been met? How will I know if it has been met?
- Will it provide me with evidence that will lead me to make a decision for continuous improvement.

G. HOW TO WRITE A COURSE LEVEL SLO

In one sentence, describe one major piece of knowledge, skills or abilities that a student will have gained by the end of your course. Make sure that the SLO represents a fundamental result of the course and aligns with other courses in a sequence, if applicable.

There is no need to reinvent the wheel. It may actually help to work backwards. What are you already doing in the course that you feel is central to the course? Take a look at your course assignments or syllabus. If there were just a couple of topics that you could teach the students from the entire course, what would they be? Another approach would be to make a list of all of your major assignments and try to extract the central piece of knowledge, skills or abilities that you are intending for the students to capture.

A set of guidelines has been developed to help you evaluate your SLO progress. The checklist is provided on page 34 of this handbook. It includes the following questions:

1. Have you indicated whether your outcome is course-level or program-level?
2. Does it align with department goals?
3. Is it central to the course/program?
4. Is it reasonable given the ability of the students?
5. Does it explicitly state what the students will think, know, or be able to do as a result of the course/program?
6. Is it measurable or observable? (Hint: Use action verbs. See Blooms Taxonomy in the Appendix)

H. HOW TO WRITE A PROGRAM LEVEL SLO

All courses that belong to a program (program descriptions can be found on page 3 of this handbook.) must be mapped to the Program Student Learning Outcomes (PSLOs). The mapping will determine which courses will assess the PSLOs.

Program faculty will meet, discuss, and develop their program level student learning outcomes using the same process as noted for the development of their course level SLOs. In one sentence the faculty will describe what knowledge, skills or abilities that a student will have gained as a result of completing the program.

Once the program level and course level SLOs have been created, faculty will also meet to discuss and decide how their courses are "mapped" to the program level SLOs. The purpose of mapping is to illustrate where program-level outcomes are being address across the program's courses. It can also help to identify curricular needs and resource priorities. The map indicates where knowledge and skills are introduced, reinforced, and mastered. The point where the program-level is mastered is where the SLO should be assessed.

In programs where there are clear prerequisites and/or sequencing, program level SLOs will be measured in the course with the highest level of knowledge or skill (capstone). In programs with courses that do not build in this manner, programs may introduce and master knowledge or a particular skill in one course.

I. HINTS FOR WRITING SLOS

- Make sure the outcome can be tested or assessed or observed.
- Have a manageable number of outcomes. Maybe a course/program/department could develop 2-4 outcomes. Try to pare down the outcomes to those that truly reflect the major skills or knowledge that students will take away from the course/program/department.
- When developing your outcomes, keep in mind what kind of student product (i.e. assignment, test, or project) will help you decide if the expectations have been met.
- Define any terms that individuals outside of the course or program would not be able to readily understand.
- When starting out, try not to get in over your head with the number or difficulty of the statements. Keep your statements simple and assess one main skill at a time. A rule of thumb is to have two to four SLOs per course or program.
- If multiple skills can be synthesized to build a major skill, feel free to create one SLO. Don't bundle unrelated items – break them down into separate SLOs. Sample SLO statements could begin with the following:
  - *Nursing V 10 students will be able to evaluate...*
  - *ESL V02 students will be able to categorize...*
  - *Chemistry V20 students will be able to hypothesize...*
  - *Political Science V03 students will be able to discuss...*
  - *Health Education V93 students will be able to construct...*
  - *Students meeting with Academic Counselors will be able to prepare...*

How to Write a Service Unit Outcome

In one sentence, describe what a student will experience, receive, understand, or find satisfactory as a result of a given service. Make sure that the SUO represents a fundamental function of your department and aligns with your department goals and purpose. SUOs are central to unit/office/department's critical activities such as providing a service, improving a service or decreasing/increasing the likelihood of an event. What does the student experience through interaction with your unit? How do you know when your unit is both efficient and effective?

Please note that service units will be expected to create and assess their SUOs and at least one ISUO or ISLO.

Some concepts to consider include the following:
- Level or volume of activity
- Efficiency (cost savings measures, turnaround time, improving a process)
- Compliance with external standards or regulations
- Student satisfaction
- Student outcomes

Sample objective statements could begin with the following:
- The students will be able to demonstrate self advocacy skills ....
- Students will be able to identify course needs....
- Students will be able to successfully complete the admissions application....
- Students will be able to identify the (center) as a place to....

It is important to think about the following when developing you SLO or SUO:
- Does it align with department goals?
- Does it state that the unit will provide, improve, increase, and decrease or that the students will understand, be satisfied with, receive...?
- Is it measurable or observable?
- Is it central to the unit/office/department?

Hints:

- Make sure the objective can be tested or assessed.
- Have a manageable number of objectives. Maybe a department could develop 2-4 objectives. Try to pare down the objectives to those that truly reflect the major skills or knowledge that students will take away from the service(s) provided.
- When developing your objectives, keep in mind what kind of student behavior will help you determine if the expectations have been met.
- Define any terms that individuals outside of the service department would not be able to readily understand.
- When starting out, try not to get in over your head with the number or difficulty of the statements. Keep your statements simple and assess one thing at a time.

J. REFERENCES

- American College Health Association Presentations and Hand-outs by Glenn Egelman, M.D., Director, Bowling Green State University Student Health Center and Donna Schoenfeld, M.S., Director of Health Enhancement, Northern Illinois University
- Bresciani, M.J., Zelna, C.L., Anderson, J.A. (2004) Assessing Student Learning and Development: A handbook for practitioners. NASPA.
- Donna Schoenfeld, M.S., Director of Health Enhancement, Northern Illinois University Glenn Egelman, M.D., Director, Bowling Green State University Student Health Center American College Health Association Presentation
- Learning Outcomes 101 & Student Learning Outcomes 201 Office
  Student Learning & Outcomes Assessment University of Rhode
  Island – Student
- Presentations and Handouts by Student Affairs Conference by Gavin Henning, Director of Student Affairs Planning, Evaluation, and Research, Dartmouth College
- Numerous other presentations, handouts, readings and conversations.

The Rotational Plan

Instructional Programs

Ventura College has elected to use a 5-year rotational plan for CSLO, PSLO, and ISLO assessments. The rotational plan allows departments to spread out the assessments so they do not have too many assessments all in the same semester. This also allows the department to use off-semesters to try new things that were suggested in the assessments and implement initiatives to see if they made a difference.

- All courses will have to assess ALL of their CSLOs over the 5-year period.
- All PSLOs have to be assessed over 5 years.

All relevant ISLOs to the department have to be assessed in the VC designated year for the ISLO. Preferably only one ISLO per course was selected.

Service Units

SUOs and ISUOs are assessed on a one-year assessment plan. This allows the service unit to analyze data and implement changes quickly to improve outcomes of the services that are provided to students. Service units are required to have at least two SUOs and one ISUO or ISLO. The assessment of these on an annual basis should be manageable.

Assessments

Once you have created your SLOs or SUOs, it is time to decide how to assess each of them and decide what indicators will benchmark student achievement or service level satisfaction. This process needs to involve appropriate course level faculty and/or appropriate service area faculty and staff. Faculty teaching the course will need to create a rubric for scoring student work using these set criteria. All faculty teaching the course must agree upon the assessment tool, the criteria for evaluation (the achievement level) and rubric so that findings can be aggregated and analyzed.

It is important to create a process that is easy to follow. Think of it as a recipe for a cake that anyone can follow. There may be expected or unexpected changes in the individuals who work in a program or department and instead of starting the SLO or SUO process from the beginning, a clear assessment process will serve as a blueprint for anyone to continue. In disciplines in which there are multiple sections of the same course, discipline faculty must meet prior to the start of a semester to review the department's rotational plan to see which SLO will be assessed. how it will be assessed, what rubric will be used to standardize the results, and what achievement level (performance indicators) is desired.

Your assessment strategy should include the following:
- What SLO is scheduled to be assessed?
- What means of assessment will you employ? Choices include course-embedded assessment, portfolio, survey, test, etc. (See the list on the next page and in the appendix.)
- How do you expect your students to fare? Using your rubric to guide you, establish a minimum score for success and indicate the number (%, fraction, actual number) of students who you expect to meet the minimum score. Your rubric needs to align with your established success levels which are your performance indicators. Sample rubrics can be found on pages 41-45. It is important that all course faculty members agree with this performance indicator and the rubric to be used.
- Who will you assess? Consider the course(s), class sections, activity, workshop, term, etc.
- How will you collect your evidence?
- When will you collect your evidence?
- If you have conducted this assessment in the past, do you have any previous data to use as a marker for comparison?
- How would you plan to use the results?
- Faculty will be responsible for conducting the assessment.
- Department Chairs will be responsible for scheduling the meetings, gathering data from individual faculty, and maintaining an historical data file that will transfer to future department chairs.

Remember that you don't have to measure everything about every student during every course in every term or about every student for every service! Be selective and measure only those areas in which you are most interested and/or that are most relevant to meeting current or future student needs

In order for the results to be useful, the assessment tools must possess both validity and reliability. Validity is the degree to which the assessment measures what it was intended to measure. Reliability is the consistency of an assessment.The concepts of validity and reliability are demonstrated in the following example. If someone that weighs 175 pounds steps on a bathroom scale ten separate times, and it reads "175" each time, then the measurement is valid and reliable. If the scale consistently reads "225," then it is not valid, but it is still reliable

because the measurement is consistent. Reliability is a measure of consistency whereas validity is a measure of accuracy. For more information regarding validity, reliability, or anything related to research and statistics, please contact -the faculty SLO facilitators or SLO Advisory Group for assistance.

Consider the following questions when developing your assessment strategies:

- How will you know if and how well you have accomplished your objective? What can the student do to demonstrate that they have met the SLO or SUO?
- For SLOs: Do you have any existing assignments that will offer students an opportunity to address the expectation set in your SLO?
- For SUOs: Are there existing service performance checks that could be used to assess the outcomes statement?

Note: For SLOs, another way to develop outcomes is to look at what is already being done. This process is called course-embedded assessment, since the assessing or testing of outcomes is being incorporated into the course itself or may already exist.

Consider the use of multiple measures to assess an SLO or SUO. If you have a concept that is central to your course, program, or service, try to find more than one way to assess it. For example, if you expect your students to be able to possess a skill, think about several ways that they could provide evidence that they indeed possess the skill. Thus, students could self-report their skill on a survey, correctly answer the relevant questions on a final exam, and produce a project that requires them to use the skill. Using more than one way to assess an SLO or an SUO enables you to truly determine if your outcome or objective was met.

Assessment results and the process will be documented first by individual faculty on the ***SLO ASSESSMENT FINDINGS – EMBEDDED*** form. This form is for individual faculty use and will be the data utilized as the department evaluates the appropriate course level SLO. The individual faculty should keep a copy in his/her files and supply a copy to the department chair for use in the department meetings at which improvements in student learning are discussed. The individual faculty document can be stored in the SharePoint depository and its purpose is only to support the information that is documented in TracDat.

Assessment Tools

Assessments must be authentic. They should help you determine how well did students gained what you wanted them to learn. They can be graded or not. Assessments do not require that you create something new to use as an assessment tool. You already have all the tools you need that you use in your class to assess students' skills/knowledge. Examples of assessment tools you already use include:

* Exams	* Industry exams
* Essays	* Group projects
* Case studies	* Individual Projects
* Presentations	* Performances
* Journals	* Artwork
* Reports	* Critiques of articles, works, etc.

The best way to determine how you will assess an SLO is to map your key assignments, projects, quizzes, and exams to SLOs. Which of these give you the best information as to whether a student has met a particular SLO? Then use that as your assessment tool. A tool that can be used to map assignments, projects, exams, etc. to SLOs can be found in the appendices of this handbook.

IMPORTANT NOTES

- If there are multiple faculty members teaching the course, they must agree on three things: the assessment tool, the rubric, and the performance target. Data must come from similar assessments in order to be analyzed and must use the same criteria for success. You cannot compare apples and oranges. The idea behind assessments is to get faculty talking and sharing ideas in an effort to increase student success.

- When using an ISLO rubric, you do not have to use the entire rubric to assess. You may utilize only the components on that rubric that are relevant to your assessment.

When reporting findings to the Department Chair, please use the proper form. All forms are available on the VC website.   http://www.venturacollege.edu/college-information/student-learning-outcomes   The form will allow you to enter CSLO, PSLO and ISLO findings on the same form, if you used embedding. You simply ignore the SLO columns that do not apply to your assessment.

These items are extremely important and must be included on your reporting form.
- Number of students assessed and the number who met the target
- Your interpretation of the findings – What did you think about the results? Did the findings match your expectations? Were there any extenuating circumstances that might have affected the findings? Analyze the findings as you interpret them.
- Your suggestions – even if all students met the target. What could be done differently next time to maintain or increase student success?

What do you do with the findings?

IF THE STUDENTS MET EXPECTATIONS:
- Identify this as a program strength.
- Consider increasing expectations.
- What can you do to increase success in those students who didn't meet it?

IF DIDN'T MEET EXPECTATIONS:
- Review SLOs
- Clarify SLOs
- Review expectations
- Review assessment tool
- Review/revise learning methods used
- Review/revise course content
- Determine if anything is needed for the course to improve student success, such as, additional faculty, training, equipment, software, videos, equipment, etc.

Embedded Assessments

In regards to assessing multiple levels of SLOs (CSLO, PSLO, and/or ISLO) in a course in the same semester, we recommend that faculty 'embed' their assessments - in other words, knock out 2 or 3 in one assignment, if possible, to simplify the process. So you can use any assignment, test, etc. that you would normally use to assess CSLO #1 in your courses but, if possible, add an ISLO component to the assignment so you can assess all levels at the same time.

When evaluating your assessments, you would use your normal CSLO rubric to assess your CSLO and come up with findings and suggestions. Then you would look at that assignment again, just from the ISLO rubric and assess only the students' ISLO skills (not course content) and provide those findings.

EXAMPLE FOR ISLO #1 (COMMUNICATION)

1) Choose an assessment tool that has a written or oral component to assess the students' communication skills in addition to the content.
2) Use the CSLO rubric for content to assess the assignment
3) Assess the same assignment from the written or oral communication rubric and assess only the students' communication skills (not course content) and
Provide those findings.

The same process can be used if you assess a PSLO at the same time as another level of SLO. You will look at that same using the department's PSLO rubric to assess it. That is why PSLOs are more vague - because they have to be able to be assessed in a variety of courses but lead to whether the student understands the program's goals.

HOW TO EMBED PSLOs, ISLOs and CSLOs

There are times when a course will be scheduled for assessment of all three levels of SLOs during the same semester. Embedded assessments are a way to assess a CSLO, PSLO and ISLO simultaneously using one assessment tool. This simplifies the work for the faculty members doing the assessments.

HERE ARE SOME SUGGESTIONS AS TO HOW TO EMBED.

1. Find out from your department chair which SLOs are scheduled for that semester. If you are scheduled to assess all three levels, consider embedding.
2. Determine the ISLO for that year. For 2014-2015, the ISLO is #3: Critical Thinking and Problem Solving.
3. Choose an assessment tool (assignment, project, quiz, test, etc.) that will assess:
    a. The ISLO skill
    b. The PSLO to be assessed
    c. The CSLO to be assessed

    You are already assessing students every time you give a graded assignment or test so decide which of those will enable you to look at it from all three perspectives.
4. The PSLO and CSLO will be evaluated using the faculty-selected rubric and reported in Trac Dat.
5. The ISLO will be evaluated using the appropriate ISLO rubric used campus-wide.

This process allows faculty to give one assessment that accomplishes evaluation of three levels of SLOs at the same time.

EXAMPLE USING THE BUSINESS PROGRAM

In this example, BUS V38 (Small Business Management) is scheduled to assess ISLO #3, PSLO #2, and CSLO #3. It has been decided to embed the three assessments into one assessment. These are the SLOs:
- ISLO is Critical Thinking and Problem Solving
- PSLO is Examine various approaches to decision-making.
- CSLO is Analyze the elements involved in deciding to start a small business.

DETERMINATIONS MADE:

1. Assessment tool to be used: Students will write a short essay analyzing three factors to be evaluated in deciding whether to start a small business. This assignment will allow for assessing critical thinking, decision-making approaches as well as analyzing the decisions needed to start a small business.
2. The students' essays are evaluated using 3 different rubrics:
    a. The essays are evaluated using the ISLO #3 rubric. Only relevant components are used.
    b. Next they are assessed using the PSLO rubric for the Business Department.
    c. Finally, they are assessed using the CSLO rubric created by the faculty teaching the course.
3. Findings are reported on one form (SLO Assessment Findings – Embedded).
4. All three assessments are complete.

Developing a Rubric

STEPS TO DEVELOPING A RUBRIC

1. What is your SLO?

2. What does the SLO suggest that students should be able to know or do?

3. What specific task(s), skill(s), example(s) will be used to test this?

4. Will you need more than one component? If so, list them

5. What assessment tool (e.g. essay, skill demonstration) will best inform you about student performance related to your SLO?

6. How many levels of achievement (such as: *exceeds expectations*, *meets expectations*, and *does not meet expectations*) will you use?

7. Fill out the table:

   - Fill in components
   - Provide minimum acceptable achievement in *meets expectations* column (*does not meet expectations* fails to achieve this)
   - Provide necessary improvement needed to achieve at *exceed expectations* level
   - Check for ambiguity

Data Assessment

This step sounds easy but is the one where most assessment efforts stall. Many departments are able to develop SLOs and SUOs and accompanying assessment plans but have difficulty administering the assessment and collecting the data. The first assessment cycle is usually the hardest to complete because it competes with many other responsibilities and priorities. It may help to discuss the challenge and brainstorm possible ideas during the formation of the assessment process noted above.

The Student Learning Outcomes Oversight Group (SLOOG) has developed several forms to help guide you and document the assessment process. Copies of the forms may be found on pages 46- 51 of this document and electronic copies are available in SharePoint and the Student Learning Outcomes Website. They are:

- The INDIVIDUAL FACULTY SLO ASSESSMENT RESULTS form
- The COURSE LEVEL SLO ASSESSMENT SUMMARY form
- The SERVICE UNIT OUTCOME ASSESSMENT SUMMARY

Some helpful tips:
- Have SLOs/SUOs as a standing item on department meeting agendas.
- Set a timetable that not only involves the assessment but also the meetings to analyze, summarize and document your findings and plans.
- Block time in your schedule to complete the assessment plan.
- Create a timetable for assessment
- Seek assistance as needed from the assigned faculty SLO facilitators Assessment Tools:

Faculty use quizzes, exams, etc. throughout the semester to assess student achievement. Service areas may wish to make use of surveys, focus groups, comment cards, and observation as their assessment tools. A list of suggested tools can be found in the appendix on pages xx-xx in this document. Each of these tools provide very useful data, but it is up to the course faculty and service area faculty and staff to determine which tool is most appropriate to use.

The faculty SLO facilitators are available assist with selecting the appropriate assessment tool, performing validity and reliability checks, preparing data interpretation and analysis, and explaining guidelines for creating rubrics. Faculty assessing the course SLO may use different tools to assess students or they may decide to all use the same tool. The administration of conducting surveys will be conducted by the service unit however units may wish to work together to help minimize the workload. The data collection must be housed within the program or department.

Data Analysis

Analyze the data and summarize.

Course level faculty, program level faculty or service unit faculty and staff will meet after the assessment has been conducted to analyze and summarize the data. The goal of this discussion is to discuss with your colleagues the ways in which student success can be improved.

Some questions to consider when discussing the data with faculty and/or staff in your area:
- What skills (or portions of skills) did student achieve? What were the most common errors that students made? What did the students not grasp at all?
- What parts of the service did clients express the greatest satisfaction? What were some of their recommendations?
- Are there other findings that exist that you did not expect? What are you most surprised by?
- Were there any trends, patterns or themes that emerged from the data?

When summarizing your findings, please ask yourselves:
- Have you fully noted the achievement level using percentages or actual numbers of students who achieved the determined success level?
- Did you note whether or not the goal was achieved?
- Did you note reasons why success could not be determined?
- Did you remember to include all pertinent data?
- Did you list the most appropriate actions that you plan to initiate change to improve success?
- Did you note when you plan to implement the change?
- Did you note all resources needed to assist with your actions for improvement?

Closing the Loop

Closing the Loop involves determining ways to use the data and make applicable revisions to the curriculum, departmental processes, and the outcomes/objectives. Meeting with your department faculty and/or staff to discuss the assessment results and the data summary is the most vital step because this is the time when you and your colleagues examine the findings; identify areas for growth or opportunity, and brainstorm ideas and methods to address those areas. The purpose of this meeting is to stimulate meaningful dialogue and initiate change. For instructional faculty, this process will occur both at the course level and program level. Service units are programs, thus need only to complete this process at the program level.

Guiding questions could include the following:
- Were you satisfied with the student performance or response?
- Did the students meet or exceed your expected level of success?
- Are changes or improvements necessary?
- Based on the data analysis and summary, how would you modify your teaching or service to better address the student needs?
- SLOs: What should be done to improve student learning? What elements of the teaching and learning process should be added, deleted or modified to increase student success?
- SUOs: What do you need to change to improve student experiences?
- Evaluate the assessment plan. What did you think of this SLO or SUO? Does it need to be revised? Do the criteria for success (performance indicators) need to be changed?
- Should this SLO or SUO be assessed again sooner rather than later?

Once this discussion has taken place, determine the plan of action to make necessary revisions or changes. When documenting your use of results, consider the following:
- Does your plan for change align with the findings from the assessment effort?
- What does your unit/office/department plan to do as a result of the findings?
- Who will be responsible for making the change?
- When will the change take place?

PROCESS OF CLOSING THE LOOP (AKA: Follow-Up On Previous Assessments)
- Assess
- Discuss findings
  - Use the data to evaluate the effectiveness of teaching
  - If students met expectations:
    - Identify this as a program strength!
    - Consider increasing expectations.
    - Determine what might be tried to increase success in those students who did not meet expectations.
  - If students did not meet expectations:

- Review the SLOs – do they really identify what students should know?
- Clarify the SLOS – ensure that leading activities strengthen knowledge/skills.
- Review expectations – is the performance target realistic?
- Review the assessment tool – is it the right tool for assessing the outcome?
- Review/revise learning methods used.
- Review/revise course content.
- Create initiatives
  - Resource requests must link to SLO data
  - Changes not requiring resources
- Implement initiatives
- Re-assess
- Report these findings   "Closing the Loop"

Accreditation expectation is that we will be at the highest level on the ACCJC rubric: "Sustainable, continuous quality improvement".
- SLOs and assessment are ongoing, systematic, and used for continuous quality improvement
- Dialogue about student learning is ongoing, pervasive, and robust.
- 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.

Examples:
    Good examples:
- Faculty increased student contact. The result was increase completion of semester projects.
- The department budget was increased by $500 to purchase equipment requested in initatives
    Bad examples:
- Increase supplemental learing activities.
- Increase guidance to students as the progress through assignments.

EXAMPLE OF FINDINGS SCREEN CORRECTLY COMPLETED

Findings:	The students were prepared for the exam. Since the assessment was taken late in one section of the course, there was a strong understanding of the terms.
Findings Date:	5/22/2014
Target Met:	Yes
Reporting Period:	201403 (Spring 2014)
Suggestions from Faculty:	An in-depth assignment, such as an oral presentation or case study report, could be used to stimulate expression and critical thinking stills using terms. Revise activities leading up to the exam and/or supporting assignments.
Modality:	Face to Face
Total # of students assessed:	86
Total # of students meeting target:	75
Total % of students meeting target:	87

EXAMPLE OF CLOSING THE LOOP

To "close the loop", open your findings. Scroll to the bottom to find your initiative. Click on "Add Closing the Loop". Complete the Closing the Loop box and add the date of the re-assessment.

Initiative Promote use of on-campus tutors and SmartThinking.
Give a demonstration on how to use the free SmartThnking online tutoring service.
Provide a handout with step-by-step instructions (11/20/2014)

Resources Required: No

Resource Dollar Amount:

Resource Description:

* Closing the Loop Date	02/08/2015
* Closing the Loop	In the Spring 2015 semester, tutoring was stressed with the students using multiple methods: additional emails were sent to students encouraging them to use SmartThinking tutoring, links to SmartThinking and the VC tutoring webpage were placed on the course home page, MyMath tutor screen shots were added to the course, and discussion questions were added. The web links and MyMath screen shots will become a permanent part of the course, as will emails to encourage tutoring options. 85% of the students passed the re-assessment.

Documentation

As you move throughout the assessment process, document your SLO or SUO progress and assessment efforts. The SLO and SUO process needs to be documented using any of the following methods:

- Minutes of department meetings
- Email discussions of SLOs, assessment process, and/or findings
- SLO Assessment Findings - Embedded forms, stored by Department Chairs, preferably in Sharepoint
- SLO Assessment Summary for CSLOs or ISLOs form – use is optional
- SLO Assessment Summary for PSLOs form – use is optional
- SUO Assessment Summary form – use is optional

Remember that the above forms have been developed as a way to document your process and copies can be obtained on the VC website on the SLO web page. http://www.venturacollege.edu/college-information/student-learning-outcomes

TracDat

TracDat is the Ventura College repository for all SLOs, SUOs, assessment tools, performance targets, rubrics, findings, initiatives, and closing the loop reports. Department Chairs and Coordinators and/or their designated SLO/SUO leads will be responsible for entering all data and uploading all rubrics into TracDat. Training is provided at workshops each semester and individually by appointment with an SLO Facilitator.

SharePoint Document Depository

Department Chairs and key service area staff members will receive SharePoint training as needed. Individual faculty SLO Assessment Findings – Embedded forms are NOT to be uploaded into TracDat. These documents should be stored in SharePoint by the department chairs.

Continuous Cycle

SLO/SUO assessment is not a one-time process. Assessments and analysis must be repeated as we focus on improving student outcomes. The process of self-reflection and assessment must remain a continuous process in order to bring about meaningful change. Assessment enables each department to evaluate its current and future goals and needs and plan strategies to better serve students. Continuous improvement builds on existing efforts to improve student performance and optimize their experiences. Thus, it is imperative to continue the dialogue and revise assessment efforts as necessary to ensure that student needs are being met and that student success initiatives continue.

The development, assessment and evaluation of SLOs and SUOs should be iterative and reflective. SLOs and SUOs should be discussed, modified and updated on an on-going basis so that we create a culture of evidence

that leads to sustainable, continuous quality improvement in course instruction, instructional support services, and student services areas. It is not necessary to assess every SLO/SUO each year; however, they all SLOs and SUOs must be assessed according to the department's scheduled rotational plan. The important aspect of the process is to create a process that is continually working toward creating improvement in student learning and the student experience

New to SLOs?

If you are new to the SLO process, here are the steps you should take.

- ▸ Get a copy of the SLOs for your department or courses.
- ▸ Put the SLOs on your syllabi for every course. Talk about them with your students.
- ▸ Get a list of SLOs to be assessed this semester.
- ▸ Review CSLOs (and PSLOs if relevant).
- ▸ Talk to fellow faculty, especially those teaching the same courses you are teaching.
- ▸ Determine best assessment tool for SLO.
    - ◦ Assignment, test, project, etc.
    - ◦ What is the desired performance target?
- ▸ Create or review rubric and give to students. Discuss it with them.
- ▸ Report results to your Department Chair on the *SLO Assessment Findings – Embedded* form. You can obtain this form from the VC website at this link: http://www.venturacollege.edu/college-information/student-learning-outcomes on the "Forms" page. You will also find a page containing faculty resources.
- ▸ Discuss your findings with your department and create plan for changes – "initiatives". These can be small changes that you make during the same semester or something that requires more planning or resources to implement.
- ▸ When you implement the changes, re-assess the students to see what effects the changes have had.

Appendices

Appendix #1: SLO/SUO Process Checklist

1. Meet as a department or program and write or revise your course level, program level or service unit outco-mes.
2. Create your rotational plan (5-years for instructional programs, 1-year for service programs).
3. Select who in the department will be responsible for assessing the outcome.
4. Develop the performance indicators that will benchmark your desired level of student achievement.
5. Discuss how your will assess.
6. Develop a rubric to be used for the assessment. Rubrics are required for instructional program assessments but are optional for service programs.
7. Conduct the assessment.
   a. Faculty will collect data, analyze, and document the results on the ***SLO Assessment Findings - Embedded*** form. Faculty will keep a copy for their files and provide the department chair a copy.
   b. Service Units will need to gather their assessment results from the tools they use.
8. Meet again to discuss your findings, analyze and determine what action needs to be taken to increase improvement. Also discuss what resources might be required.
   a. Faculty teaching courses in common will meet to compare and discuss results and how learning can be improved.
   b. Service units will also meet to compare and discuss results and how the student's experience can be improved.
9. Summarize and document your findings and action plan in ***TracDat***.
10. Department Chairs will store the individual forms in the ***SharePoint*** depository in the department's appropriate folder.
11. Discuss whether the outcome was adequately stated or needs to be revised and revise.
12. Prepare for the next semester process by setting the meeting date for the next SLO/SUO assessment process to begin again.

Appendix #2: Types of Assessment Methods

Introduction

This toolbox is designed to provide examples of assessment methods that can be used as course-embedded assessment. Each assessment method is briefly described and includes the suggested advantages and disadvantages along with references to review for more information. This list is not meant to be inclusive of all ways to measure student learning outcomes. If you are unsure of which method to use to measure your SLO or SUO, contact the SLO Facilitator or the Office of Institutional Equity and Effectiveness.

Key Definitions:

Source: James Madison University Dictionary of Student Outcome Assessment

Evaluation: This term broadly covers all potential investigations, with formative or summative conclusions, about institutional functioning. It may include assessment of learning, but it might also include non-learning centered investigations (e.g., satisfaction with recreational facilities). http://people.jmu.edu/yangsx/Search.asp?searchText=evaluation&submit=Search&Option=Term

Assessment: The systematic process of determining educational objectives, gathering, using, and analyzing information about student learning outcomes to make decisions about programs, individual student progress, or accountability http://people.jmu.edu/yangsx/Search.asp?searchText=assessment&submit=Search&Option=Term

Additional information on The Assessment Process can be found at:
   http://www.jmu.edu/assessment/resources/Tips_Process.htm

Formative assessment: An assessment which is used for improvement (individual or program level) rather than for making final decisions or for accountability http://people.jmu.edu/yangsx/Search.asp?searchText=formative&submit=Search&Option=Term

Summative assessment: A sum total or final product measure of achievement at the end of an instructional unit or course of study http://people.jmu.edu/yangsx/Search.asp?searchText=summative&submit=Search&Option=Ter m

Direct: Direct measures of student leaning require student to display their knowledge and skills as they respond to the instrument itself. Objective tests, essays, presentations, and classroom assignments all meet this criterion. http://people.jmu.edu/yangsx/Search.asp?searchText=direct&submit=Search&Option=Both

Indirect: Indirect methods such as surveys and interviews ask students to reflect on their learning rather than to demonstrate it.
http://people.jmu.edu/yangsx/Search.asp?searchText=indirect&submit=Search&Option=Term

Methods of Assessment

1. Muddiest Point

Based on the premise that most lectures can be improved, this method is to ask students to write down the concepts that were least clear to them. Those least understood concepts that total a pre- determined threshold would be addressed by the professor in future lectures or by an additional handout clarifying the subject-matter. Advantages: Requires students to organize and filter their understanding of several topics to select one that was least understood. It requires minimal time to read the results. Disadvantages: This method should be used only occasionally as it focuses on a negative aspect of learning rather than a positive one.

T.A. Angelo and K. P. Cross, 1993. *Classroom Assessment Techniques*, 2nd ed. San Francisco: Jossey- Bass.   http://www.siue.edu/~deder/assess/cats/muddy3.html

2. Directed Paraphrase

This method promotes simulation of actual work or life-related experiences. Students are asked to summarize the key concepts from a class or lecture and formulate a written discussion of those concepts to an imagined, specific recipient. The differentiation between this method and a simple summarization is use of role play by the students.

Examples:
1. A nursing student might be directed to paraphrase the concept of drug clearance by the kidneys to a worried patient.
2. An economics student might be directed to paraphrase a point of tax policy to a corporate CEO.
3. A philosophy student might be directed to paraphrase an ethics concept so that it is readily understood by a teenager.

Advantages: Students are challenged in brevity and choice of language when writing the paraphrase. Students become well-prepared for similar situations in the work environment.

Disadvantages: Some students may see this method as informal. This can be avoided by detailed phrasing of the initial question.

http://www.siue.edu/~deder/assess/cats/paraph1.html

3. Minute Paper

Students are asked to spend about a minute to write down the main idea of a topic or class. The Minute Paper is commonly used to determine if the main idea of the instructor's lecture

is captured by the students. An instructor may request the inclusion of a question students may have on the subject matter, or, ask students to comment on interesting, disturbing, or surprising aspects of a lecture or class.

Advantages: Minute Papers offer immediate feedback and, possibly, positive reinforcement to the professor. There is creative variability in the use of Minute Papers. Students must use organizational skills to chunk the information and rank the concepts. If questions are used, the assessment becomes integrative. Use of Minute Papers requires minimal time.

Disadvantages: May be time-consuming to review for large classes. Forming teams to answer question(s) may alleviate this issue.

> T.A. Angelo and K. P. Cross, 1993. Classroom Assessment Techniques, 2nd ed. San Francisco: Jossey-Bass., p.148-53
> http://www.siue.edu/~deder/assess/cats/minpap4.html

4. Characteristic Features

Characteristic Features is an assessment technique that requires students to differentiate between characteristics that do or do not define one or more topics. Using a grid structure, the instructor lists several characteristics in the left-hand column. In the columns to the right, the instructors gives topic headers, and the students are to enter a plus, "+" or minus, "-" sign to designate whether the characteristic in the left hand column is or is not applicable to the topic header.

Example

Characteristic Feature	Grades	Classroom Assessment
1. More closely focused on improving learning and teaching rather than on recording results	-	+
2. Used primarily at the end of a course or project	+	-
3. Source material is usually collected anonymously	-	+
4. Mostly quantitative and suitable for statistical analysis	+	-
5. Directly mirrors student understanding of course	+	+
6. Emphasizes judgmental process and summative evaluation	+	-
7. Results designed for official and external use	+	-
8. Use of standardized and externally validated instruments preferred	-	-
9. Requires training in research methods	-	-
10. Results useful to professors and students	+	+

Source: Southern Illinois University, Classroom Assessment

Advantages: Characteristic Features measure students' use of analysis to identify central concepts. Scanning results is simple and can be done quickly.

Disadvantages: Grid creation may be time-consuming. Students may score highly due to random selection rather than content knowledge.
http://www.siue.edu/~deder/assess/cats/featurs6.html

5. RSQC2 - Recall, Summarize, Question, Comment, and Connect

Students take two minutes to *recall* and list in rank order the most important ideas from a previous day's class. Then they take another two minutes to *summarize* those points in a single sentence in order to "chunk" the information. Next, students are asked to write one major *question* that they want answered. Finally, students identify a thread or theme to *connect* this material to the course's major goal. As an option, students may add a *comment* regarding their confidence in or wariness of the specific course content.

Advantages: RSQC2 requires students to organize information and to comprehensively assess how it applies to the overall foundation of the course.

Disadvantages:RSQC2 is time-consuming to evaluate. It also forces the professor to evaluate the course structure.

> T.A. Angelo and K. P. Cross, 1993. *Classroom Assessment Techniques*, 2nd ed. San Francisco: Jossey-Bass., p. 344-8 http://www.siue.edu/~deder/assess/cats/rsq9.html

6. Transfer and Apply

Students are asked to takes course theories learned and to transfer the knowledge to applications and situations they have experienced.

Advantages: Because transference of learned material is a challenging cognitive achievement, Transfer and Apply provides students practice in mastering the task. Evaluating the results may be done rather quickly.

Disadvantages: Creating rubric to assess Transfer and Apply may be time-consuming. (see section on Rubrics)

> T.A. Angelo and K. P. Cross, 1993. *Classroom Assessment Techniques*, 2nd ed. San Francisco: Jossey- Bass., p. 236-9 http://www.siue.edu/~deder/assess/cats/apps9.html

7. Anecdotal Records

Anecdotal Records are written observations of instructional experiences within a predefined set of content standards.

Advantages: Anecdotal records facilitate review of assessment and curriculum by providing observations of student learning.

Disadvantages: This method requires planning, preparation and may be time consuming during class time.

T. K. Rhodes and S. Nathenson-Mejia *Anecdotal Records: A Powerful Tool for Ongoing Literacy Assessment*, Reading Teacher, v45 n7 p502-09 Mar 1992

8. ConcepTests

Conceptests are a technique used where the instructor asks questions about key concepts and offers students several possible answers. Students are asked to select an answer and to indicate immediately, either by show of hands or by clicker, the answer selected. If the majority of the class has not mastered the concept, students are then asked to discuss with their neighbor the reasons supporting their choice. A second assessment is given by the instructor to re-assess knowledge.

Advantages: This classroom assessment works well in large classes. Students require little training for Conceptests. It takes minimal class time to perform the tests and to analyze results.

Disadvantages: Formulating the questions and possible answers for the Conceptests can take time initially. There is a cost involved in the clicker system.
http://www.flaguide.org/cat/contests/contests1.php

9. Concept Maps

Concept Maps are a visual tool allowing students to see the relationships between general and specific concepts. Concepts are given in a hierarchical design, with links between defining the nature of the relationships.

Example:
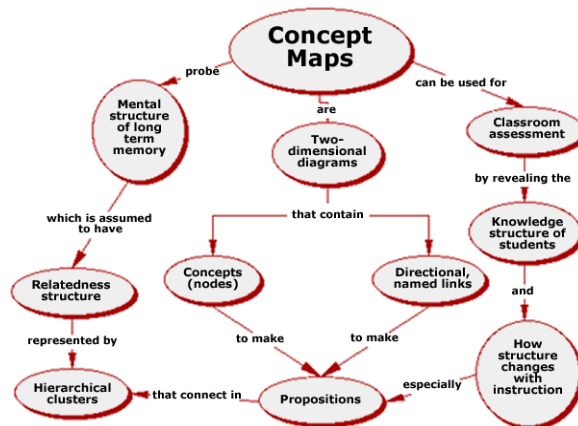
Source: http://www.flaguide.org/cat/conmap/conmap2.php

Advantages: Effective for assessing students' understanding of complex relationships.

Disadvantages: Instructor prep time can be significant for creating fill-in Concept Maps.

http://www.flaguide.org/cat/conmap/conmap1.php
http://classes.aces.uiuc.edu/ACES100/Mind/c-m2.html

10. Quizzes or Exams

These are locally developed instruments designed by faculty to measure knowledge in single or multiple components of a course.

Advantages: The content is easily modified to adapt to specific outcomes. Results are meaningful for both student evaluation and learning outcomes. Embedding Learning Outcomes into the quiz or exam is uncomplicated. Feedback may be rapid.

Disadvantages: Creating quizzes or exams may be time-consuming. Determining reliability and validity require extensive knowledge in measurement.

http://www.apa.org/ed/eval_strategies.html

11. Rubrics

A rubric is a scale designed for scoring student work against a pre-defined set of criteria. A rubric is typically in table format with two or more criteria and two or more levels of performance to be measured.

Analytical rubrics specify individual criteria and evaluate these standards independent of one another.

Holistic rubrics measure performance across multiple factors as a complete product.

Advantages: Assessment is objective and consistent. Rubrics clearly document and communicate expectations.

Disadvantages: Using rubrics may be limiting to student creativity as students strive to follow a predefined outline. Rubrics are time-consuming to create.

http://jonathan.mueller.faculty.noctrl.edu/toolbox/rubrics.htm

http://www.ion.illinois.edu/resources/pointersclickers/2004_03/benefits.asp

12. Essays

Essays are a written evaluation of a topic utilized to demonstrate a student's ability to plan, research, analyze, organize and synthesize information. Students develop stronger

communication skills through essay writing.

Advantages: Effective for assessing students' understanding of multiple concepts.

Disadvantages: Grading is time-consuming.

   http://www.apa.org/ed/eval_strategies.html

13. Case Studies

Case studies are actual issues and problems that students analyze to formulate alternative solutions for the situations. Numerous case studies in various disciplines have been developed by academic institutions and are available for purchase and use by other schools.

Advantages: Case studies demonstrate analytical and synthetic thinking well. Also, students benefit from relating other knowledge to topic.

Disadvantages: The learning experience is dependent on student knowledge from multiple areas.

   http://online.bakersfieldcollege.edu/courseassessment/Section_4_Assessment_Tools/Section 4_8Toolsli nks.htm#Case%20Study

14. Problem Solving

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.

Advantages: This technique displays analytic and synthetic thinking well and is authentic if real world situations are used.

Disadvantages: Problem solving assessment is difficult to grade due to multiple methods and potential multiple solutions.

   http://online.bakersfieldcollege.edu/courseassessment/Section_4_Assessment_Tools/Section 4_8Toolsli nks.htm#Case%20Study

   http://www.ruf.rice.edu/~lane/rvls.html

15. Speech

Oral speech is a method used to emphasize a student's organizational and verbal communication skills. Students may be required to analyze an issue or situation and verbally present the findings or students may be asked to memorize passages to recite verbatim.

Advantages: Students improve skills in public speaking and organization.

Disadvantages: Some students may be insecure about public speaking.
http://online.bakersfieldcollege.edu/courseassessment/Section_4_Assessment_Tools/Section4_8b.htm
http://serc.carleton.edu/NAGTWorkshops/assess/oralpresentations.html

16. Oral Interview

An oral interview provides a portrait of a student's understanding about a specific concept or set of related concepts. The interview may consist of a question and answer session or a task or problem-solving exercise.

Advantages: Appropriate for all disciplines.

Disadvantages: Several hours may be required to develop a reliable questions or problem sets. Interviews are best used when the student has developed a comfortable relationship with the professor.

http://www.colorado.edu/pba/outcomes/ovview/mwithin.htm

17. Debate

A debate is an oral speech contest between competing sides about a specific topic or proposition. Debates increase student abilities in knowledge, speaking skills, reasoning skills and analysis.

Advantages: Students are required to organize thoughts and formulate clear and concise arguments in a short period of time. Depending upon the number of students involved, the debate process may emphasize teamwork.

Disadvantages: Students from collective cultures may be uncomfortable with public displays of disagreement.

http://online.bakersfieldcollege.edu/courseassessment/Section_4_Assessment_Tools/Section4_8b.htm http://www.apa.org/ed/eval_strategies.html

18. Product Creation

Product creation requires the student to construct a tangible product. Students exhibit knowledge and practical skills required for the processes and outputs.

Advantages: Students have the opportunity to demonstrate employability.

Disadvantages: Colleges may be limited in resources available for product creation.

19. Flowchart or Diagram

A flowchart is a visual or graphical representation, primarily through the use of symbols, of the logic or sequence of steps in a process, operation, function, or activity. Students must recall information and also analyze and synthesize organization and structure to develop systematic steps within the process.

Example:
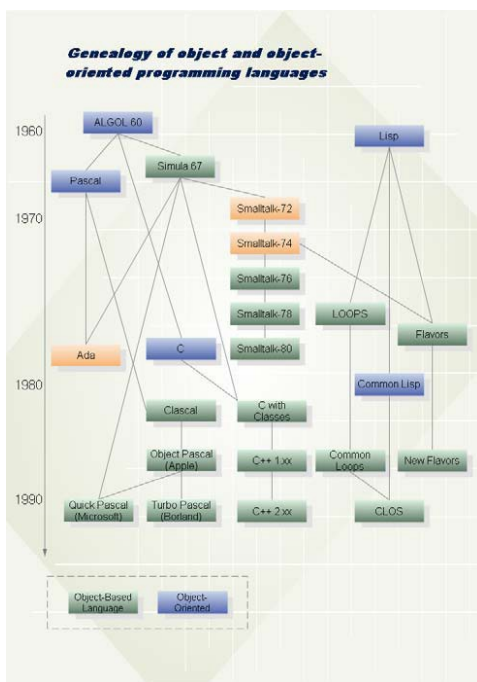
Advantages: Effective for assessing student understanding of complex relationships.

Disadvantages: Instructor preparation may be time consuming to create complex outline of flowcharts.

See also: Concept Map

http://online.bakersfieldcollege.edu/courseassessment/Section_4_Assessment_Tools/Section4_8Toolsli nks.htm#Case%20Study

Source: http://www.edrawsoft.com/flowchart-examples.php

20. Team Project

Team projects are collaborative projects produced to cover concepts in one course, multiple courses, such as learning communities, or community projects, such as service learning.

Advantages: Appropriate for assessing students' knowledge of multiple concepts, as well as multiple levels of understanding and application.

Disadvantages: May be difficult to assess individual student involvement. Additional time may

be required due to collaboration with faculty from other disciplines.

http://online.bakersfieldcollege.edu/courseassessment/Section_4_Assessment_Tools/Section4_8To olsli nks.htm#Case%20Study
http://www.cpcs.umb.edu/partners_projects/partners_projects_collaborations.htm

21. Portfolios

Portfolios are collections of students work that demonstrate the progress and level of learning that occurs over a period of time. The variety of work maintained in the portfolio illustrates multiple levels of learning.

Advantages: Analyzing a portfolio of work allows the faculty to assess a broad spectrum of knowledge at one time. Also, it allows for assessment of several learning objectives simultaneously. Portfolios are useful for a number of disciplines. Portfolios are easily adaptable to measuring different levels of assessment (e.g. course, program, general education).

Disadvantages: May be labor-intensive to assess at the end of a term or program. Depending upon the course or program, portfolios may require physical storage space for hard copies.

http://www.provost.wisc.edu/assessment/manual/manual2.html#a4

22. Performances

A performance is an execution of an action or artistic work. Performances emphasize what the student is able to do. Students receive valuable practical experience through active learning.

Advantages: Performances are adaptable. They promote student self-assessment. Students have the opportunity to demonstrate employability.

Disadvantages: Preparation and assessment for performances can be time-consuming. Students who are insecure may be dissuaded from participation. Depending upon the discipline assessed, this method may require extensive training of reviewers.
http://www.austincc.edu/oiepub/pubs/effectiveness/iumanual.pdf p 24

23. Capstone Project

A Capstone project measures student achievement of a broad knowledge base derived from participation in a program or a specific series of courses.

Advantages: Capstone projects are cumulative and integrative. Assessment of projects provides a setting for department or discipline-specific dialogue.

Disadvantages: Capstone projects can be labor-intensive. Coordination across the departments or disciplines may be challenging.

http://www.colorado.edu/pba/outcomes/ovview/mwithin.htm

24. Reflective Self-Assessment Essay

Students are asked to reflect on their college experiences. They must critically assess their academic growth and development in essay form, providing substantiation for their positions. When used in combination with Student Portfolios, students can observe development and document progress thoroughly.

Advantages: Student perspective is authentic.

Disadvantages: Reflective Self-Assessment is an indirect method of assessment.

http://online.bakersfieldcollege.edu/courseassessment/Section_4_Assessment_Tools/Section4_8To olsli nks.htm#Case%20Study

25. Satisfaction or Perception Surveys

Student satisfaction or perception surveys are used to gather data about student priorities and satisfaction. Surveys can be locally created or commercially standardized. Some standardized surveys allow for partial customization to allow the department or school to collect specialized data.

Examples: CCSSE and NSSE on student engagement, Noel-Levitz SSI (Student Satisfaction Inventory), CSEQ College Student Experiences Questionnaire

Advantages: For commercially developed surveys, scores are immediate and data are compared to student populations nationwide.

Disadvantages: Usually the college-wide instruments such as CCSSE are administered not for class-level feedback, but for college-level feedback; therefore, it is hard to use these surveys for class-based review of your own students. It is time consuming to generate questions for locally developed surveys.

See also: Exit Interview
http://online.bakersfieldcollege.edu/courseassessment/Section_4_Assessment_Tools/Section4 _8Toolsli nks.htm#Case%20Study

http://www.mtsac.edu/administration/research/pdf/tips/ResearchTips%20v1n1%20designi ng%20surveys.pdf

26. Licensing Exams

Many vocational careers require students to pass licensing exams to enter a specific field of work. Sample licensing exams are available for many professional licenses.

Advantages: Students see probable outcome of their preparation. Sample scores are useful for assessing areas of student strength and weakness, in order to modify and improve instruction.

Disadvantages: Low scores on sample exams may disillusion students.
http://online.bakersfieldcollege.edu/courseassessment/Section_4_Assessment_Tools/Section 4_8Toolsli nks.htm#Licensing%20Exams

27. Standardized Tests

Standardized tests are assessments created and tested under controlled conditions to determine the level of learning acquired. Student competencies are measured and compared to national standards.

Advantages: Benefits include broad public usage and ease of data comparison. Results demonstrate external validity. Recent high-school graduates may have familiarity with the format of standardized tests.

Disadvantages: Unlike locally-developed quizzes or exams, standardized tests do not offer the flexibility of customization to various goals or outcomes. Faculty may be unable to clearly determine where student succeed and fail.

http://www.provost.wisc.edu/assessment/manual/manual2.html#a3

28. Exit Interviews

Exit Interviews ask students to reflect upon student learning and their educational experiences. Students are asked about instructional approaches, classroom environments and perceptions of assignments that best encourage student learning.

Advantages: Provides authentic and immediate feedback useful for assessing program improvement. Interaction with students may provide richer data collection. Interviews allow for clarification and depth of inquiry.

Disadvantages: Best if used in conjunction with other assessment tools.

 See also: Satisfaction or Perception Surveys

http://www.skidmore.edu/administration/assessment/hbmethods.htm#in direct

29. Focus Groups

Focus groups are interactive discussions among a small pool of participants. Students are asked about attitudes towards their educational experience.

Advantages: Focus groups allow for in-depth inquiry, clarification, and follow-up on issues. Useful when combined with quantitative analysis for a broad understanding of issues.

Disadvantages: Data is indirect. Assembling groups of students may be challenging due to scheduling differences. Focus group data may be biased. Focus group moderator must be properly trained to address the group. Requires additional personnel to record and/or transcribe responses.

http://www.mtsac.edu/administration/research/pdf/tips/ResearchTips%20v1n3%20focus%20groups.pd   f

30. Pre-Post Assignment/Test

At the onset of a course, an assignment or test is administered to measure the baseline level of understanding of one or more concepts. After learning occurs, a similar assignment or test is given to determine the level of learning.

Advantages: Pre-test results offers direction for group learning. This methods provides immediate feedback, if desired.

Disadvantages: Possible tendency to teach to the post test or assignment.

http://www.pvc.maricopa.edu/AI/documents/PrePost.doc

Appendix 3: Course & Program Level Initiatives Suggestions

IN THE CLASSROOM:

- Put more emphasis on . . . . .
- Put less emphasis on . . . . .
- Students will get a tour of . . . . . to familiarize them with . . . . .
- Make test a (scantron, essay, open book, etc...).
- Have an instructional assistant help with . . . . .
- Have students review key concepts in small groups.
- ☐☐Require failing students to attend (test review, study group, tutoring session, etc.).
- Continue to have students (evaluate, participate in, complete paper on, etc.) . . . . . topic.
- Change (or add) textbook (or reading materials, course packet, study guide, supplemental book, etc.).
- Create common questions to help test . . . . .
- Course will have all instructors meet . . . . .times a semester to discuss . . . . .

FACULTY PROFESSIONAL DEVELOPMENT:
- Learn more about . . . . .
- Conduct a survey to see how instructors for course . . . . . currently teach . . . . .
- Collect best practices on . . . . . topic from within the department.
- Investigate best practices for . . . . . topic.
- Send representatives to attend . . . . . conference for the purpose of . . . . .

LARGER ISSUES:

- Schedule course at different time to increase . . . . .
- Course needs increased (lab hours, class hours, study groups, tutoring, etc.).
- Alter course requirements to reflect decreased (or increased) lab hours.
- Acquire instructional assistant to . . . . .

OUTCOME POSSIBILITIES:

- Inactivate an SLO.
- Consider changing SLO to . . . . .
- Change the assessment method to . . . . .
- Change performance target (increase or decrease) the number (or %) of students who successfully complete it.-
- Continue emphasizing current strategies.
- Continue to monitor SLO for . . . . . # of semesters.

Appendix 4: Bloom's Taxonomy

Bloom's taxonomy is a very useful framework for describing SLOs. It identifies a hierarchy of cognitive learning outcomes from lower-level to higher-level thinking abilities. It starts at the basic knowledge level and works through the evaluation level. A variety of action verbs are provided to assist with measuring specific student abilities and skills.

The great benefit of these verbs is that they are action verbs and thus, observable and measurable! Since SLOs can address a variety of learning from simple memorization and recall of basic facts to complex analysis and evaluation skills, Bloom's taxonomy is especially effective when developing SLOs/SUOs.

KNOWLEDGE	COMPREHENSION	APPLICATION	ANALYSIS	SYNTHESIS	EVALUATION
Cite	Associate	Apply	Analyze	Arrange	Appraise
Count	Classify	Calculate	Appraise	Assemble	Assess
Define	Compare	Classify	Categorize	Collect	Choose
Draw	Compute	Demonstrate	Classify	Compose	Compare
Identify	Contrast	Determine	Compare	Construct	Criticize
List Name	Differentiate	Dramatize	Debate	Create	Determine
Point	Discuss	Employ	Diagram	Design	Estimate
Quote	Distinguish	Examine	Differentiate	Formulate	Evaluate
Read	Estimate	Illustrate	Distinguish	Integrate	Grade
Recite	Explain	Interpret	Examine	Manage	Judge
Record	Express	Locate	Experiment	Organize	Measure
Repeat	Extrapolate	Operate Order	Identify	Plan	Rank
Select	Interpolate	Practice	Inspect	Prepare	Rate
State	Locate Predict	Report	Inventory	Prescribe	Recommend
Tabulate	Report	Restructure	Question	Produce	Revise
Tell Trace	Restate	Schedule	Separate	Propose	Score Select
Underline	Review	Sketch	Summarize	Specify	Standardize
	Tell	Solve	Test	Synthesize	Test Validate
	Translate	Translate		Write	
		Use Write			

Source: Bronx Community College Institutional Research
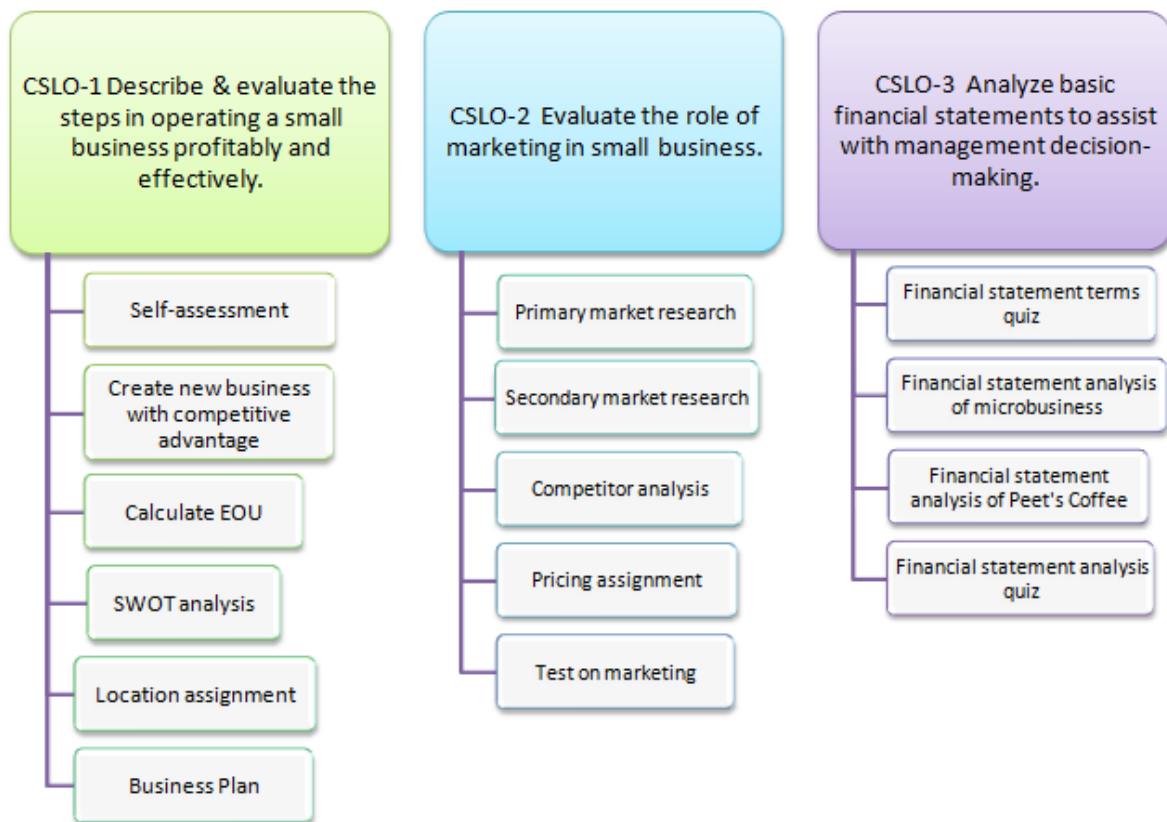(http://www.bcc.cuny.edu/InstitutionalResearch/Assessment.htm)

The next diagram is another representation of Bloom's taxonomy. It identifies the transition from lower-level to higher-lever thinking by moving clockwise in the innermost circle from Remember/Analyze to Evaluate.
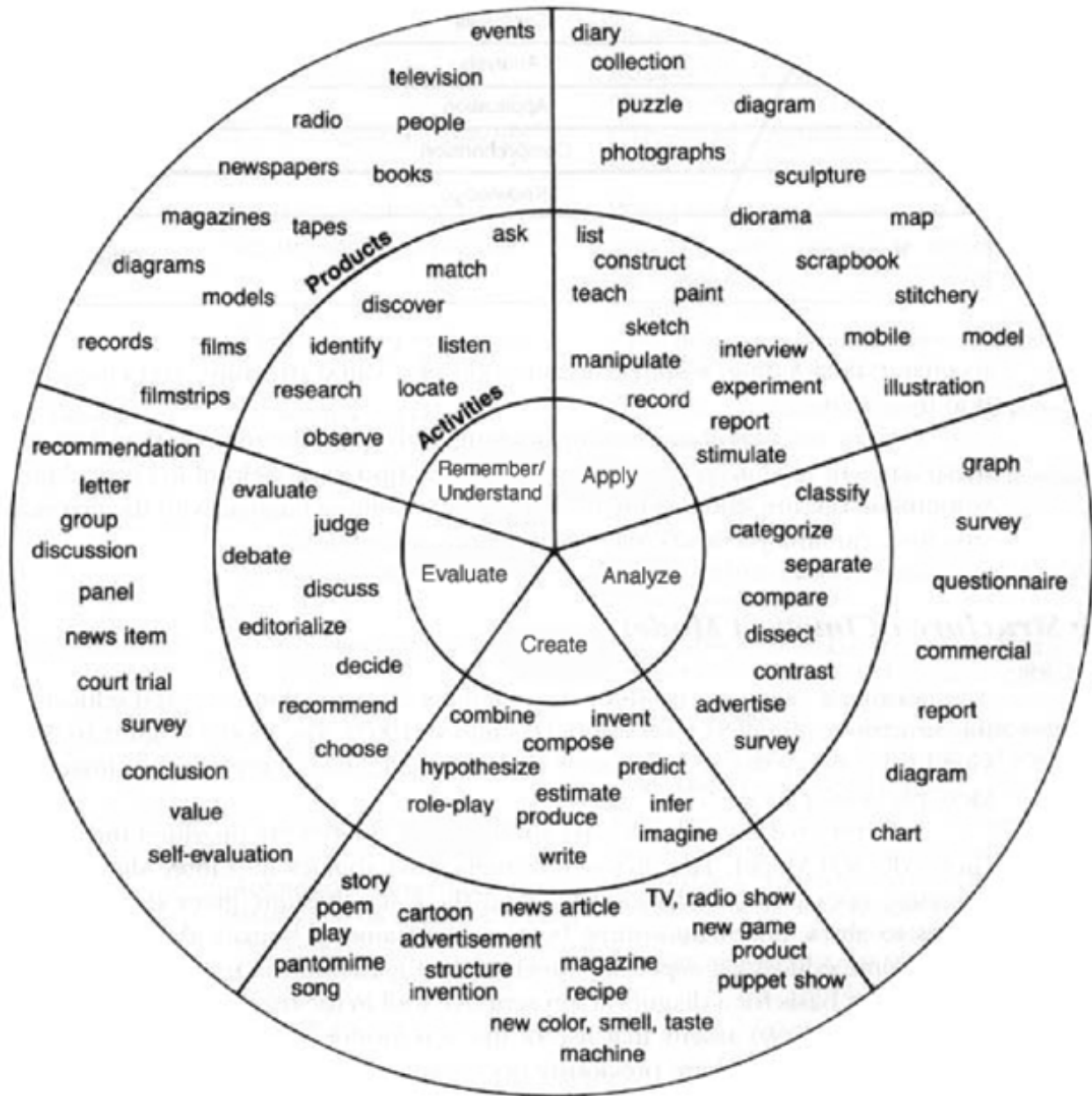
Appendix 5: Mapping Your Assessments

An effective way to select an assessment method for your SLOs is to map the current assignments, projects, exams, presentations, portfolios, etc. that are used in your class to the SLOs. Here is a sample of mapping for a course.

SAMPLE CURRICULUM MAP FOR SMALL BUSINESS MANAGEMENT

CSLO-1 Describe & evaluate the steps in operating a small business profitably and effectively.

- Self-assessment
- Create new business with competitive advantage
- Calculate EOU
- SWOT analysis
- Location assignment
- Business Plan

CSLO-2 Evaluate the role of marketing in small business.

- Primary market research
- Secondary market research
- Competitor analysis
- Pricing assignment
- Test on marketing

CSLO-3 Analyze basic financial statements to assist with management decision-making.

- Financial statement terms quiz
- Financial statement analysis of microbusiness
- Financial statement analysis of Peet's Coffee
- Financial statement analysis quiz

You may try using the mapping worksheet below to map your coursework to SLOs.

Curriculum Mapping of Assignments to SLOs Worksheet

Student Learning Outcome (SLO)	Key Assignments and Activities		
	Introduced	**Practiced**	**Mastered**
	Assignment/activity: How does this assignment/activity help students learn the SLO?	Assignment/activity: How does this assignment/activity help students practice the SLO concepts?	Assignment/activity: How does this assignment/activity help students demonstrate mastery of the SLO concepts?
	Assignment/activity: How does this assignment/activity help students learn the SLO?	Assignment/activity: How does this assignment/activity help students practice the SLO concepts?	Assignment/activity: How does this assignment/activity help students demonstrate mastery of the SLO concepts?

Curriculum Mapping of Assignments to CSLOs & PSLOs Worksheet

Key assignments or activities that address the course SLOs	Which CSLO (Course SLOs does it contribute to?	Which Program SLO'S does it contribute to, if any?	What level of emphasis? (Introduced, practiced, or mastered)?

Appendix 6: TracDat Training Guides

Ventura College purchased and implemented TracDat® software in 2012 as the SLO and SUO outcomes management and assessment software. This software allows us to plan, organize, document, and report outcomes as well as manage initiatives used as action plans for continuous improvement.

Department Chairs, Department Coordinators, Deans, and SLO leads have direct access TracDat®.

TracDat training guides are available on the VC website on the SLO pages at this link: http://www.venturacollege.edu/college-information/student-learning-outcomes/tracdat . They are also found in each TracDat unit in the **Documents Repository** under **Ventura College** then **VC Training Guides**.

Appendix 7: Resource List

Academic Assessment: Advantages and Disadvantages of Various Assessment Methods. Morningside College. www.morningside.edu/academics/research/assessment/documents/advantagesdisadvantages. pdf

Angelo, T.A. and Cross, K.P. Classroom Assessment Techniques. Jossey-Bass. San Francisco. Accessed from: http://www.siue.edu/~deder/assess/cats/

Wallace, Roslyn. Assessing the Effectiveness of Instructional Units. Austin Community College. http://www.austincc.edu/oiepub/pubs/effectiveness/iumanual.pdf

Assessment Methods Used by Academic Departments and Programs. University of Colorado, Boulder. http://www.colorado.edu/pba/outcomes/ovview/mwithin.htm

Classroom Assessment Techniques (CATs) Overview. Field-tested Learning Assessment Guide. http://www.flaguide.org/cat/cat.php

Collaborative Learning Projects. The College of Public and Community Service. University of Massachusetts, Boston. http://www.cpcs.umb.edu/partners_projects/partners_projects_collaborations.htm

Frye, Richard. Assessment and Outcomes. Center for Instructional Innovation, Teaching & Learning Resources. Western Washington University http://pandora.cii.wwu.edu/cii/resources/outcomes/default.asp

Fulks, Janet. Assessment Tools and Data. Assessing Student Learning in Higher Education. Bakersfield College

http://online.bakersfieldcollege.edu/courseassessment/Section_4_Assessment_Tools/Section4 _1. htm

Guidelines For The Assessment Of Learning Outcomes, Arizona State University http://129.219.216.161/assess/assessguide.pdf

Index of Classroom Assessment Techniques. Southern Illinois University, Edwardsville http://www.siue.edu/~deder/assess/cats/

Kinds of Concept Maps. University of Illinois at Urbana-Champaign. http://classes.aces.uiuc.edu/ACES100/Mind/c-m2.html

McNeice-Stallard, Barbara. Focus Groups. Research Tips. Mt. San Antonio College.
http://www.mtsac.edu/administration/research/pdf/tips/ResearchTips%20v1n3%20focus%20g
ro ups.pdf

McNeice-Stallard, Barbara. Designing Surveys. Research Tips. Mt. San Antonio College.

http://www.mtsac.edu/administration/research/pdf/tips/ResearchTips%20v1n1%20designing%
20 surveys.pdf

Morante, Edward A. A Handbook on Outcomes Assessment for Two Year Colleges. College of
the Desert.

http://www.laccd.edu/inst_effectiveness/Student_Learning/documents/AssessmentHandbook
Spri ng.pdf

Mueller, Jon. Rubrics. Authentic Assessment Toolbox. North Central College.
http://jonathan.mueller.faculty.noctrl.edu/toolbox/rubrics.htm

Outcomes Assessment. Office of the Provost. University of Wisconsin
http://www.provost.wisc.edu/assessment/manual/manual2.html

Rhodes, Lynn K.; Nathenson-Mejia, Sally. Anecdotal Records: A Powerful Tool for Ongoing
Literacy Assessment, Reading Teacher, v45 n7 p502-09 Mar 1992

Scroggins, Bill. The Teaching-Learning Cycle: Using Student Learning Outcome Results to
Improve Teaching and Learning. Modesto Junior College. Accessed from:
http://www.smc.edu/research/SLO's/Teaching%20the%20TLC%20to%20the%20SLOs.doc

Varvel, Virgil E. Rubrics. Pointers and Clickers. Illinois Online Network. University of Illinois.
http://www.ion.uillinois.edu/resources/pointersclickers/2004_03/benefits.asp

Wright, Barbara D. Advantages and Disadvantages of Assessment Techniques. Accessed from:
http://cai.cc.ca.us/Resources/AssessmentMethods.doc