MVSU - Guidelines for Writing Effective SLOs

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Workshop Outcomes

At the end of the workshop, participants should be able to:

1. Distinguish between Goals and Objectives

1. Develop measurable Student Learning Outcomes/Objectives

2. Choose the ‘best” assessment strategy/method for their SLOs

The Assessment Cycle

Establishing Learning Goals/Outcomes

Establishing Learning Goals/Outcomes

- Set priorities: Start with your three to six most important learning goals.

How do we set these?

Learning outcomes or learning goals, are the knowledge, skills, attitudes, and habits of mind that students take with them from a learning experience (Suskie 2004, p. 75).

The Difference between Goals and Objectives

- **GOALS:** ***describe the broad learning outcomes and concepts*** (what you want students to learn) expressed in general terms (for example, clear communication, problem solving skills, critical thinking skills, etc.).

- **OBJECTIVES:** ***describe specific learning behaviors that students should exhibit in the context of the course.*** Objectives are the specific skills, values and attitudes students should exhibit that reflect the broader goals (e.g., for students in a freshman writing course, this might be "students are able to develop a cogent argument to support a position").
- Often in the assessment literature, "objectives" and "outcomes" are used interchangeably.

Learning objectives/goals fall into three basic categories, knowledge, skills and attitudes:

Increase Knowledge and Basic Understanding	***Develop Thinking and Other Skills**	**Develop Attitudes and Values**
Remembering Replicating a simple procedure Defining Summarizing Explaining concepts	*Thinking skills* – Application, analysis, synthesis, evaluation and other thought processes. *Performance skills* – manipulate a tool, hit a softball, *Interpersonal skills* – Abilities to listen, lead a group, and participate as an effective team member	Appreciation Integrity Character Becoming more aware of one's own values Enjoying and valuing learning

Critical Thinking!!

- While all three kinds of skills are important, thinking skills are the focus of higher education courses and programs.
- Critical thinking is widely used, but its meaning lacks clear consensus. Critical thinking can include any of the thinking skills described on the previous slide. It also can include the abilities to seek truth, clarity and accuracy; distinguish facts from opinions; etc.
- If critical thinking emerges as a potential learning goal, spell out the kinds of thinking skills it encompasses in your particular situation.

Program-and Course-Level SLOs

- Program Level – decide on which SLOs are important for the program as a whole.
- Course Level –decide on which SLOs represent the broad outcomes for the course. Usually, a course will have one to five SLOs.
- **Focus on what the student should know and be able to do** at the end of the program or course. Consider how students will demonstrate the knowledge, skills, abilities, or values you expect them to develop.
- **Modify as you learn** from experience. As you begin the actual assessment, sometimes flaws will be identified in the SLO itself. Upon completion of your assessment, you may discover that revision of the SLO is necessary.

Student Learning Outcomes Defined

- Express what the student will be able to do with the *essential* knowledge, skills, and depositions gained by the end of a course.
- Focus on the *product (*performance) rather than the *process*
- Are *measurable (*that is, identifiable or observable)
- Are *detailed* and *specific* – explicitly stated
- Include appropriate *action verbs* such as define, compare, design etc. (Bloom's Taxonomy)

- NOTE: If a SLO is *essential*, it should be assessed.

Components of Student Learning Outcomes

- Well-written SLOs include 4 components (ABCCs):
- *A = Actor* (implies students –"The student will be able to…") This component of the SLO is often referred to as the "stem".
- *B = Behavior* (the performance/what the student will be able *to do*) Use an action verb from Bloom's Taxonomy.
- *C = Conditions* (context, setting and/or conditions under which the behavior will occur) Provides specific details.
- *C = Criterion/criteria* (defines the *minimum acceptable level* of performance) The focus is on the expected "quality of performance". The criterion/criteria can be specific or qualitative (using generic quality indicators of performance such as, critically, accurately, appropriately, concisely, etc.).

SLOs at the Appropriate Level

- SLOs describe learning that is appropriate for the level of expertise expected of students.

- **Lower-Level Courses (100 & 200):**

SLOs describe knowledge, comprehension, and application; might include a few higher-order skills

- **Upper-Level Courses (300 – 400):**

Greater emphasis on SLOs that describe analysis, synthesis, and evaluation skills

SLOs at the Appropriate Level

- In general, one would expect 3000 and 4000-level courses to include action verbs derived from the more complex levels of Bloom's Taxonomy (Levels 4-6).

- Graduate level courses would typically include action verbs from the highest levels of Bloom's Taxonomy.

SLOs at the Appropriate Level

- Graduate SLOs reflect the progressively more complex and rigorous expectations associated with graduate study.

- Graduate SLOs describe the knowledge and skills required to engage in independent research and professional practice.
  - Advanced content knowledge of the literature of the discipline
  - Cognitive skills required for ongoing student engagement in research and/or appropriate professional practice and training experience

Assessing your SLOs

Questions to ask/consider when evaluating your SLOs.

- Are the outcomes measurable?
- Do the collection of outcomes represent learning that is appropriate for the course level?

Please Note:

- Even graduate level courses will require some SLOs written at Bloom's levels of knowledge and understand when students encounter new but complex disciplinary content.
- Consider the difficulty and challenge posed by content as well as the level of Bloom's Taxonomy represented by the verbs when you evaluate the appropriateness of an SLO for undergraduate and graduate work.

Bloom's Taxonomy of Educational Objectives

- Use of action verbs from Bloom's Taxonomy help to ensure that a student learning outcome is measurable.
- Bloom's Taxonomy is a hierarchical design of ways of thinking (action or performance verbs) that classifies learning or cognition into six levels; categorized from less to more complex.
- Level 1 – Knowledge
- Level 2 – Understand
- Level 3 – Apply
- Level 4 – Analyze
- Level 5 – Evaluate
- Level 6 – Create

Bloom’s Taxonomy

Level	Cognitive Behaviors
1. Knowledge	to know specific facts, terms, concepts, principles, or theories
2. Comprehension	to understand, interpret, compare and contrast, explain
3. Application	to apply knowledge to new situations, to solve problems
4. Analysis	to identify the organizational structure of something to identify parts, relationships, and organizing principles.
5. Synthesis	to create something, to integrate ideas into a solution, to propose an action plan, to formulate a new classification scheme
6. Evaluation	to judge the quality of something based on its adequacy, value. logic or use

Rules of Thumb – Action Verb Selection

- Avoid use of verbs such as, “know”, “recognize”, “value”, “demonstrate”, “appreciate”, etc. **unless** you describe the students’ performance actions that will indicate their knowledge, recognition, value, and ability to demonstrate or appreciate.

- Concrete verbs such as “define,” “argue,” or “create,” are more helpful for assessment than vague verbs such as “know,” “understand,” or passive verbs such as “be exposed to,”

- It’s best to keep SLOs simple by only using a single action verb per SLO.

Therefore: Program Learning Outcomes:

- Describe what students learn, rather than what faculty will do or “cover”

- Important to the program and discipline
- Observable to you and others
- Rely on verbs
- 3 – 6 outcomes are ideal

Well-written Student Learning Outcomes Examples

Well-written Student Learning Outcomes Examples

- *Select* the most appropriate investigative methods or information retrieval systems for accessing needed information. (Level 1-Knowledge)
- Accurately *assess* the quantity, quality, and relevance of the search results to determine whether alternative information retrieval systems or investigative methods should be utilized. (Level 5-Evaluate)
- *Structure* a 3 to 5-page essay around a thesis, maintaining unity and coherence. (Level 6-Create)
- *Choose* appropriate interventions to manage chronic juvenile offenders in a secure detention facility. (Level 3-Apply)

Well-written Student Learning Outcomes Examples

- ENGLISH COMPOSITION

Course Goal: Students will learn to acknowledge and adjust to a variety of writing contexts.

Objectives:

1. The student will ***demonstrate*** through ***discussion, planning and writing*** an awareness that audiences differ, and that readers' needs/expectations must be taken into account as one composes text.

2. The student will **demonstrate** in ***writing*** the ability to ***draft and revise work*** with a sense of purpose and an awareness of audience.

Measures/Methods of Assessing SLOs

Selecting Assessment Methods/Strategies

- It is important to determine the method of assessment for each program OR course SLO and the criteria for success.

- After you create your SLOs, think about what assignments or course or program requirements will provide you with the student work (evidence/artifact) you will examine to determine if the outcomes have been achieved.

Choosing an Assessment Strategy

- The best assessment plans use multiple, diverse approaches (Suskie, 2004 & Walvoord 2004).

Approaches:

- Formative and summative assessment.
- Direct and indirect evidence of student learning.
- Assessment yielding evidence of learning processes, inputs, and context as well as learning outcomes.
- Objective and subjective assessments
- Performance assessments and traditional assessments.
- Imbedded and add-on assessments.
- Local and published assessments.
- Quantitative and qualitative assessments.

Assessing Courses

Typical assessment questions at this level:

- How well is the class collectively achieving the course's content outcomes and objectives? How well I the class collectively achieving general or transferable learning outcomes and objectives?
- Are the assignments helping students achieve the expected level of knowledge or skills?
- How well are students prepared for the following courses in the sequence?
- Is the course level appropriately targeted for the ability(ies) of the students when they begin?
- With what degree of consistency do different sections of a course achieve similar outcomes?
- How well is the course fulfilling its purpose in the larger curriculum?

Sources of Evidence

- Embedded assignments (papers, exams, projects, journals, portfolios)
- Externally or commercially developed tests
- Course portfolios constructed by the instructor (syllabi, expectations, and examples of student work).
- For multi-section courses, common assignments that provide evidence across sections

Aggregation of Data

- ***To assess individual courses***: -Sampling the work of all students in a course
- ***To assess multi-section courses:*** **-** Common assignments across sections (or common requirements such as a student or course portfolio).
- ***To assess both individual courses and multi-section courses:*** **-** Student portfolios and end-of-course reflections can provide evidence of both cognitive and affective learning outcomes.

Data Uses

- For formative feedbacks instructors can improve learning
- For summative feedback - inform planning for the future by an instructor or a course committee
- To support cross-sectional analysis of how consistently multi-section courses are achieving important learning outcomes or the purposes of the course in a sequence

Assessing Programs

Typical assessment questions at this level:

- Do the program's courses, individually and collectively, contribute to its outcomes as planned?
- How well does the program fulfill its purposes in the entire curriculum?
- How well do the program's sub-categories contribute to the overall purposes?
- Does the program's design resonate with its expected outcomes?
- Are the courses organized in a coherent manner to allow for cumulative learning?
- Does the program advance institution-wide goals as planned?

Sources of Evidence

Direct Evidence:

- Assignments from individual courses
- Student portfolios built over the program's duration
- Student tests or assignments
- Capstone projects
- Result of common assignments
- Commercial tests
- **NOTE:** Individual student grades are not informative at this level.

Aggregation of Data

- Course-level assessment of the courses in a program can be analyzed individually or collectively to reveal whether program goals are being achieved.
- Sampling of student portfolios considered excellent, average, and sub-par can vividly portray growth in student performance from beginning to the end of a program.
- Disaggregated data can reveal how sub-groups of students are succeeding in the program.
- Some external, commercially available assessments can be compared to norms (e.g., the Major Field Tests from ETS).

Data Uses

- To confirm the purpose of the program (e.g., its place in the entire curriculum or connection to mission)
- To check alignment of program design with program outcomes
- To discern how well the program, from its beginning to end, fosters cumulative learning of the desired outcomes
- To discover how well the program as a whole enables students to achieve end-point levels of competence for all program outcomes
- To identify superfluous and or missing curricular and co-curricular elements in the program

Means of Assessment and Artifacts:

- Means of assessment are the instruments that are used to determine if the Student Learning Outcome (SLO) has been achieved.

Examples:

- a) A locally developed rubric will be used to measure performance proficiency in Theater 406, the capstone course for the degree in Theater.
- b) An exit exam for Criminal Justice Students will be administered to all graduating seniors measuring the three main areas of competence.
- c) All graduating students will pass a licensing exam in Landscape Architecture.
- d) Students will complete the Major Field Test in Biology.

In the Assessment Plan, **the 1st means of assessment is required.**

The 2nd means of assessment is strongly recommended.

Examples of Direct and Indirect Measures – Course Level

Direct Measures	Indirect Measures
Course-based exams/assignments/projects	Course evaluations
Term papers, lab reports, case studies	Test blueprints (outlines of concepts & skills tested)
Course-embedded questions/assignments	Classroom Assessment techniques (e.g., thought papers, muddiest point explanation)
Observations of field work, internship performance	Percent of class time spent at intellectual or cultural activities related to the course
Oral presentations	Reflective essays
Portfolios	Focus group interviews with students
Graphic tests and poster	Job placement data
Group and team projects	Exit interviews
Transcript analysis of class conversations	
Capstone Course projects/assignments	

Examples of Direct and Indirect Measures –Program Level

Direct Measures	Indirect Measures
Pass rates or scores on licensure or certification exams or subject area tests	Focus group interviews with students, faculty, employers
Student publications or presentations	Job placement data
Capstone projects, senior thesis, exhibits, portfolios, or performances	Employer or alumni surveys
Employer & internship supervisor ratings of students' performance	Student perception surveys
Portfolios Research projects	Acceptance into professional, graduate schools
Embedded questions and assignments – essay exams, objective exams	Exit interviews
Locally developed exams	
Pre/post test data	

Student Learning Goal Supported:

Indicate which of the following Student Learning Goals each SLO is most likely to support. If the SLO could fall under more than one category, choose the best. Do not choose more than one. The choices are:

I. Students will be critical thinkers.

1A: General Critical Thinking.

1B. Critical Reading.

1C: Mathematics or Statistics.

II. Students will be exceptional communicators.

2A. Writing Proficiency.

2B. Oral Proficiency.

2C. Computer Literacy.

III. Students will be service-oriented, engaged, and productive citizens.

IV. Students will Participate in Research.

V. Students will Master the Discipline.

Sources

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CONCLUSIONS

- Want more information?
- Have questions or comments?
- Needs clarification?

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