

Student Learning Outcomes Series Fall 2008

Goals, Objectives, and Learning Outcomes 101: Developing Student Learning Outcomes

Facilitated by:
Dr. Francine Glazer, Director, Center for Teaching & Learning
Dr. Michael Uttendorfer, Dean, School of Education

Why Now?

- Feedback from Middle States on the NYIT Self-Study identified weaknesses that must be addressed immediately in the area of Assessment of Student Learning Outcomes.
- Our plan to address the weaknesses had to be submitted by October 15.

Why Am I Here?

- Learn to **write or revise** student learning outcomes so they will meet internal and external accreditation requirements.
- **Share** your student learning outcomes experiences with other workshop participants.
- **Become a resource** in your school for the assessment of student learning outcomes.

Workshop Description

- This workshop is designed to guide participants through the process of developing **student learning outcomes** that meet the requirements for internal program assessment and external accrediting agencies. Workshop attendees will learn how to write learning outcomes that are **student-centered, clearly stated** and **measurable**.

Today's Learning Outcomes, 1

- By the end of this session, participants will be able to:
 - State multiple reasons why we need to use student learning outcomes in every course.
 - Distinguish between general course goals and specific student learning outcomes.
 - Identify the three main elements of a performance objective.

Today's Learning Outcomes, 2

- By the end of this session, participants will be able to:
 - List multiple uses for student learning outcomes data.
 - Translate a course goal into student learning outcome(s) in a specific content area.

Middle States Standard 14

"Assessment of student learning demonstrates that, at graduation, or other appropriate points, the institution's students have knowledge, skills, and competencies consistent with institutional and appropriate higher education goals."

(Middle States, 2006, p. 78)

Middle States Assessment

"Assessment is not an event but a process that is an integral part of the life of the institution, and an institution should be able to provide evidence that the assessment of student learning outcomes and use of results is an ongoing institutional activity."

(Middle States, 2006, p. 79)

Our BIG Question

How do we know if we are meeting our mission and goals?

We need a means of systematically collecting and analyzing data on student learning outcomes.

The NYIT Mission

- To provide career-oriented professional education
- To offer access to opportunity to all qualified students
- To support applications-oriented research that benefits the larger world

Why Worry about Student Learning Outcomes?

Data on Student Learning Outcomes can be used to:

- Facilitate understanding of **student needs**
- Document **effectiveness** of instruction
- Guide course/program **improvement**
- Meet the **requirements** of accrediting bodies

Our Goal as Faculty

"Our aim as faculty should be to focus our attention on making courses and other learning experiences that will best empower our students to learn, to learn fully, effectively, efficiently, and with rewarding satisfaction."

(Moore, 1998)

Outcomes Assessment

In higher education, at its simplest, outcomes assessment has three stages:

1. Defining the most important things students should be able to **do** as a result of participating in an academic experience (outcomes)
2. Evaluating **how well** students are actually achieving those goals (assessment)
3. **Using the results** to improve the academic experience (closing the loop)

Course Goals vs. Student Learning Outcomes

- Course goals are *general statements* that define an effective course (what the **course** should do).
- Student learning outcomes are *specific results* the students must achieve in order to attain the course goals (what **student** can do).

Identify a Course Goal

- Activity: Write a course goal for one of the courses you teach.

Good Student Learning Outcomes are:

- **student-focused** rather than professor-focused
- focused on the learning resulting from an activity rather than on the activity itself
- focused on **skills and abilities** central to the discipline and based on professional standards of excellence
- general enough to capture important learning but clear and specific enough to be **measurable**
- focused on aspects of learning that will develop and endure but that can be assessed in some form now

Writing Student Learning Outcomes

Student Learning Outcomes must be measurable.

1. **Performance.** What is the learner expected to be able to do and/or produce to be considered competent?
2. **Conditions.** What are the important conditions (if any) under which the performance is to occur?
3. **Criterion.** What is an acceptable level of performance? How well must the learner perform the task in order to be considered competent?
(Mager, 1997)

Goals to SLOs

Course Goal

- Students will be able to do the research necessary to write a formal paper.

Derived Student Learning Outcome

- Students will be able to distinguish between scholarly and popular writing when identifying source material.
- Students will evaluate web pages for reliability and credibility.

Goals to SLOs

Course Goal

- Students will be effective communicators.

Derived Student Learning Outcome

- Students will be able to prepare and deliver a persuasive, professional speech on a current topic in their discipline.

Goals to SLOs

Course Goal

- Students will be able to solve problems.

Derived Student Learning Outcome

- Students will design, collect, and statistically analyze data to solve problems encountered by a professional in their chosen discipline.
- Students will support their conclusions by data generated from their research.

Goals to SLOs

Course Goal

- Students will be able to think in an interdisciplinary manner.

Derived Student Learning Outcome

- When asked to solve a problem in his or her field, the student will be able to draw from theories, principles, and/or knowledge from other disciplines to help solve the problem.

Goals to SLOs

Course Goal

- Students will understand how to use technology effectively.

Derived Student Learning Outcome

- Each student will be able to use word processing, spreadsheets, databases, and presentation graphics in preparing their final research project and report.

Goals to SLOs

Course Goal

- Students will demonstrate knowledge of the history, literature and function of the theatre, including works from various periods and cultures.

Derived Student Learning Outcome

- Students will explain the theoretical bases of three dramatic genres and illustrate them with examples from plays of different eras.

Goals to SLOs

Course Goal

- Students will illustrate knowledge of the cultural history of Europe.

Derived Student Learning Outcome

- Students will compare the origins of a specific cultural manifestation in two or more European countries.

Goals to SLOs

Course Goal

- The student will be familiar with classic examples of philosophical questions.

Derived Student Learning Outcome

- The student will develop relevant examples by which to illustrate the significance of philosophical questions.

Goals to SLOs

Course Goal

- This course prepares professionals to understand the developmental characteristics and educational needs of the early adolescent.

Derived Student Learning Outcome

- Students will be able to list three developmental characteristics of the early adolescent student.
- Students will develop a lesson plan in their content area to address one of the educational needs of an adolescent student.

Goals to SLOs

Course Goal

- Students will know how to be effective managers.

Derived Student Learning Outcome

- Students will develop guidelines to set specific goals with staff and help them design a plan to meet these goals.
- Students will develop policy that encourages staff to seek out continuing professional development opportunities.

Goals to SLOs

Course Goal

- Students will know how to be an effective mentor.

Derived Student Learning Outcome

- Students will outline at least five specific learning goals with staff by comparing performance with job duties.
- Students will identify specific performance concerns with staff, asking for possible solutions and jointly deciding methods of measuring successful outcomes.

Goals to SLOs

Course Goal

- The goal of this course is to appreciate how the physical sciences explain the natural world.

Derived Student Learning Outcome

- Explain what specifically distinguishes science from other areas of knowledge such as art, philosophy, or religion.
- Describe two specific examples of methods that use hypothesis and observation to develop testable knowledge of the physical world.

Goals to SLOs

Course Goal

- This course covers electrical test and measurement techniques using basic modern laboratory instruments.

Derived Student Learning Outcome

- Using an oscilloscope, students will be able to measure the RMS value and the frequency of the voltage waveform.

Goals to SLOs

Course Goal

- Students will understand how to use the Boolean operators AND and OR.

Derived Student Learning Outcome

- Students will demonstrate how to use the Boolean operators AND and OR in searching a database.

Goals to SLOs

Course Goal

- Students will understand the principles of web site design.

Derived Student Learning Outcome

- Students will critique a commercial website according to design principles of alignment, proximity, repetition, and contrast.

Goals to SLOs

Course Goal

- The goal of this course is to study the structure of the human body.

Derived Student Learning Outcome

- Using a detailed drawing of the human skeleton, students will be able to name and label the major bones in the human body.

Common Problems in SLOs

- Using vague terms, such as:
 - Appreciate
 - Become aware of,
 - Become familiar with
 - Know
 - Learn
 - Understand
- Describing action taken by someone other than the learner.
 - "The program will..."
 - "The course will..." or
 - "The lesson will..."

Some Good "Outcome" Verbs

▪ Knowledge – Remembering/recalling facts and specifics

- | | |
|----------|------------------------|
| ▪ Cite | ▪ Recall |
| ▪ Define | ▪ Record |
| ▪ Give | ▪ Select from a list |
| ▪ Label | ▪ State |
| ▪ List | ▪ Tell how to |
| ▪ Match | ▪ Underline |
| ▪ Name | ▪ Write directions for |

Some Good "Outcome" Verbs

▪ Comprehension – Interprets, translates, summarizes or paraphrases given information. Requires knowledge in order to demonstrate comprehension.

- | | |
|------------|-------------|
| ▪ Describe | ▪ Recognize |
| ▪ Discuss | ▪ Report |
| ▪ Explain | ▪ Restate |
| ▪ Express | ▪ Review |
| ▪ Identify | ▪ Tell |
| ▪ Locate | ▪ Translate |

Some Good "Outcome" Verbs

- **Application** – Using what has been previously learned. Requires comprehension of information in order to apply in new situation.

- Apply
- Assign
- Demonstrate
- Dramatize
- Employ
- Illustrate
- Interpret
- Operate
- Practice
- Schedule
- Shop
- Sketch
- Use

Some Good "Outcome" Verbs

- **Analysis** – Disassembling a whole into parts until relationship among parts is clear. Requires ability to apply information in order to analyze.

- Analyze
- Appraise
- Categorize
- Compare/Contrast
- Criticize
- Debate
- Diagram
- Differentiate
- Distinguish
- Examine
- Inspect
- Inventory
- Question
- Relate
- Solve
- Test

Some Good "Outcome" Verbs

- **Synthesis** – Assembling a whole into parts. Combines elements to form new entity from original one, the creative process.

- Arrange
- Assemble
- Collect
- Combine
- Compose
- Conclude
- Construct
- Design
- Diagnose
- Differentiate
- Dissect
- Examine
- Formulate
- Manage
- Organize
- Plan
- Prepare
- Propose

Some Good "Outcome" Verbs

- **Evaluation** – Assessing the value of ideas and things. Involves acts of decision-making, judging, or selecting based on criteria and rationale.

- Appraise
- Assess
- Choose
- Compare
- Critique
- Estimate
- Evaluate
- Grade
- Judge
- Measure
- Monitor
- Rank/Rate
- Review
- Revise
- Score
- Select

Which Statement is the Most Precise?

- A The student will appreciate the contribution of Mozart to music.
- B The course will focus on the last three compositions of Mozart.
- C The student will be able to identify a Mozart concerto by its sound.

Which Statement is the Most Precise?

- A The student will show familiarity with the architectural context of a building.
- B The student will name the style of architecture in a particular building.
- C The student will explore various schools of architecture.

Which Statement
is the Most Precise?

- A The student will be able to name the primary colors.
- B The student will know how to use a color wheel.
- C The course will demonstrate the significance of color in painting.

Which Statement
is the Most Precise?

- A The student will be able to create a room drawing to scale.
- B The student will examine multiple scale drawings of a room layout.
- C The course will allow students to practice scale drawings using CAD.

Which Statement
is the Most Precise?

- A The student will be able to correctly solve a system of two equations.
- B The student will complete all homework assignments and quizzes.
- C The student will understand the uses of systems of equations.

Which Statement
is the Most Precise?

- A The student will know the meaning of the term resistance.
- B The student will calculate the resistance in a circuit.
- C The student will understand the function of resistance in a circuit.

Which Statement
is the Most Precise?

- A The student will be able to compute monthly payments on a loan.
- B The student will describe how to apply for a loan.
- C The student will examine the effects of increasing mortgage rate.

Fixing SLO Problems

What's wrong with this SLO?

- Students will understand Piaget's stages of cognitive development.

Improved SLO

- Students will identify and summarize each of Piaget's stages of cognitive development.

Fixing SLO Problems

What's wrong with this SLO?

- Students will design an effective web site.

Improved SLO

- Students will design a 3-page web site that incorporates all required elements as detailed in the course syllabus.

Fixing SLO Problems

What's wrong with this SLO?

- Students will be familiar with the major sociological perspectives and how they relate to their daily lives.

Improved SLO

- Students will describe each of the major sociological perspectives and will illustrate how each perspective relates to events in their daily lives.

Fixing SLO Problems

What's wrong with this SLO?

- Students will develop the skills necessary for conducting research in the social sciences.

Improved SLO

- Students will design, conduct, and analyze a research project using appropriate scientific theory and methodology.

Write a Student Learning Outcome

- Write an example of a student learning outcome derived from a course goal you listed earlier.

Faculty Involvement

"Faculty should be influential in the substantive determination of key learning outcomes at all levels: institutional, program, and course."

(Middle States, 2006, p.56)

What's Next?

- Meet with Francine for follow up. fglazer@nyit.edu ext. 1288/6089
- Examine course goals and student learning outcomes in your course syllabi for alignment with program goals and NYIT mission.
- Add or adjust student learning outcomes in syllabi as needed.



References

Mager, R. (1997). *Preparing Instructional Objectives: A Critical Tool in the Development of Effective Instruction*. Atlanta, GA: Center for Effective Performance.

Middle States Commission on Higher Education (2006). *Characteristics of Excellence in Higher Education: Eligibility Requirements and Standards of Accreditation*. Retrieved January 30, 2008, from http://www.msche.org/publications/CHX06_Aug08080728132708.pdf

Moore, M. (1998). Introduction. In C. Gibson (Ed.), *Distance Learners in Higher Education: Institutional responses for quality outcomes*. Madison, WI: Atwood Publishing.